Funding and Administering Public Interest Energy Efficiency Programs

The Report of the Energy Efficiency Working Group

In Response to the
California Public Utilities Commission
Decision 94-12-063

APPENDICES

August 16, 1996

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This report is has been written in reply to the California Public Utilities Commission Decision 94-12-063. The authors and participants that assisted in this exercise are listed in the Acknowledgments and Active Working Group Organizations.

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APPENDICES

INTRODUCTION

This volume of the Energy Efficiency Working Group report contains four appendices. Each appendix is paginated separtely.

Appendix A is a compilation of more indepth descriptions of eight of the administrative proposals that were introduced in Chapter 4. Each proposal was written by the proponent or sponsor of that option and does not necessarily represent the opinion of other Working Group members. By concensus of the Group, the proposals are presented in their order of length. The shortest proposal being first and the longest proposal being last. Each proposal is individually paginated.

Appendix B is a foundation paper prepared for the Group by CEC staff to aid in the preparation of Chapter 2 and the general discussion of market transformation.

Appendix C is a list of acronyms and definitions that are used in the report and appendices.

Appendix D is a list organizations that have been active in the Working Group.

APPENDIX A

EIGHT INDIVIDUAL PROPOSALS FOR THE TRANSFORMATION OF ENERGY EFFICIENCY MARKETS

APPENDIX A

The following list gives the title of the proposals and the group which sponsors them in the order in which they appear in this appendix. The proposals are separated by a colored sheet.

Independent Administration of PGC Funds for DSM
(sponsored by: SESCO and RESCUE)

Coalition Proposal on Energy-Efficiency Initiatives for A Restructured Electric Services Industry
(sponsored by: National Association of Energy Service Companies, Enova Energy, Onsite Energy Corporation, CES/Way, Proven Alternatives, Natural Resources Defense Council, Environmental Defense Fund, Pacific Gas and Electric, Southern California Edison, San Diego Gas and Electric, and The Rocky Mountain Institute)

SoCalGas Proposed PGC Administrative Option
(sponsored by Southern California Gas)

A Proposal - Administration of the Public Goods Charge Fund
(sponsored by the Department of General Services)

The Energy Efficiency Fund of California
(sponsored by the Sierra Club)

PGC Administration Proposal: The California Energy Efficiency and Public Interest Research Board
(sponsored by California Energy Commission Staff)

The Administration of the Public Goods Charge Funds: The California Energy Efficiency Exchange Proposal
(sponsored by Division of Ratepayer Advocates)

PGC Administration Proposal: The California Energy Efficiency and Public Interest Research Board
(proposed by the Environmental Marketing Group)

INDEPENDENT ADMINISTRATION OF PGC FUNDS FOR DSM
(sponsored by SESCO and by RESCUE
--Residential Energy Service Companies' United Effort)

The most important DSM-related decision for the CPUC is how to structure the administration of DSM surcharge-funded activates, as their ultimate effectiveness will depend on the efficiency and motivation of those administering the funds collected through the Public Goods Charge (PGC).

The RESCUE/SESCO proposal is based primarily upon DRA's proposal and incorporates elements offered by the Department of General Services (DGS), Sierra Club, and CEC Staff.

Policy Setting

A **Governing Board (GB**) of public officials would set policies for use of PGC funds dedicated to energy efficiency, including low-income weatherization.

Unless utilities other than the CPUC-regulated utilities participate, the **GB** would consist of CPUC designees. If the publicly-owned utilities also participate (due to legislation), the **GB** could be the California Alternative Energy and Transportation Financing Authority or other board comprised of existing agency officials. **GB** officials would be subject to the financial disclosure and conflict of interest rules applicable to government officials (and be subject to scrutiny by the press as well).

The **GB** would hire its own small staff, while DSM policy staffs of the CPUC and CEC could be reduced. This differs from the DRA proposal, which envisions a GB using the staffs of other state agencies.

Independent Administration

The **GB** would conduct competitive bidding to select several **Independent Administrators (IAs)**, with at least two operating in each part of California. At least one of the **IAs** would operate statewide and handle upstream market transformation activities.

Bidders could include nonprofit entities, government agencies (such as DGS), and for-profit companies not affiliated with a regulated electric or gas utility. Instead, utility-affiliated companies and ESCOs would compete with all other for-profit and nonprofit corporations to obtain funding for DSM projects, with payment to them based upon the actual achievement of measured conservation (including that resulting from "market transformation" effects). This method would utilize the utilities' DSM expertise without subjecting PGC fund administration to conflicts of interest (noted below).

As a statewide organization with contracting and DSM expertise, DGS could be a potent bidder and effective administrator but should be subject to competition from the private sector and a limitation of the percentage of PGC DSM funds devoted to improvement of DGS-owned or

operated buildings. Utilities and their affiliates would not be eligible to administer DSM PGC funds, because they would have anti-competitive advantages in their opportunities to:

- cross-subsidize **IA** activities (allowing low-ball bids to undercut competitors);
- recoup funds by selecting themselves or other utility affiliates to perform the DSM work, despite bids from more efficient service providers;
- direct expensive DSM activities to certain customers in order to persuade them from seeking other energy suppliers, thereby concentrating DSM funds on customers most able to take advantage of retail wheeling (industrial and large commercial), to the detriment of residential customers;
- direct effective DSM activities to reduce the loads of customers that have already taken advantage of retail wheeling in order to reduce the revenues of other energy suppliers (again concentrating DSM funds on large usage customers);
- fund less effective (or hard to verify) DSM activities in their own service areas

Further, with non-utility affiliated **IAs** there would be no need for ERAM-type "lost revenue" recovery mechanisms, as the **IAs** would not suffer any "lost revenue" due to the effectiveness of DSM activities and would not face the conflicting motives facing any utility-affiliated **IA**.

All board members of any **IA** would be subject to the financial disclosure and conflict of interest rules similar to those for government officials. A financially self-interested **IA** board consisting of "DSM stakeholders" would severely compromise the use of PGC funds for DSM by raising in the public mind the likelihood of mutual back-scratching and implicit deals by board members to obtain funding for their own projects or relaxed scrutiny of the effectiveness of their projects.

Having several **IAs** operating statewide would enable the **GB** to use competition to assess their relative performance. If there is only one **IA** per utility service area, evaluation will be more difficult and subjective. After one year, the **GB** would assess the relative performance of the **IAs** and focus PGC funds on the more effective **IAs** (as CalPERS deals with investment firms handling its pension funds), while maintaining at least two (preferably more) **IAs** operating in each part of California.

If competition between **IAs** is not allowed, then the single statewide **IA** or area-defined **IAs** will be performing essentially the government function of spending public money and should be subject to the rules protecting the public from waste, fraud, and abuse. If instead several **I**As are competing to achieve measurable energy savings (including "market transformation"), then competition itself can help to ensure efficacy.

Program Implementation

The **IAs** would use standard offers and "pay for performance" competitive bidding to enable private firms, including utilities and their affiliates, to DSM projects. The **IA** would periodically (perhaps every 2 years) establish a "market transformation price" for electricity and gas savings for each customer class and would pay any qualified energy service provider (**QESP**) that price for all *ex post* measured and verified energy savings from the **QESP**'s programs implemented after that time. The price and program would be adjusted to encourage greater efficiency or to accommodate any needed changes to assure greater use of cost-effective energy efficiency efforts. There should be a price consideration for the comprehensiveness of the energy conservation treatments, to discourage creation of lost-opportunity DSM.

The important features of a "standard offer" system for obtaining energy savings, based on experience to date in New Jersey, include:

- A pre-set price per kwh or per therm saved (time and/or season differentiated, if necessary).

- A price differentiated by type of customer served (e.g., industrial, agricultural, commercial, residential, low-income residential, etc.).

- An "open" continuing solicitation for new projects from **QESP**s, customers, etc.

- Simple standardized contracts and procedures for billing, payment, customer data, etc.

1. Pre-specified, public M&E protocols for use by any **QESP**, with an easy approval process to add new M&E protocols.

- Responsibility of the **QESP** to pay the administrative costs specific to the **QESP**'s program or project, so that its overall cost-effectiveness can be accurately judged.

The statewide **IA** might achieve "upstream market transformation" by contributing to international, national, or state-level projects, subject to evaluation of such efforts for effectiveness. Any program, including those claiming a "market transformation" label, would be required to compete with other programs and projects for funding on the basis of overall cost-effectiveness. Since "market transformation" should result in greater savings per dollar invested, it will have a natural advantage in offering the most "bang for the buck." Merely naming something "market transformation" should not provide any presumed advantage. Any **QESP** implementing such a program would be subject to the ordinary requirements for proving *ex post* measured savings.[1]

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1. For example, rebates for compact fluorescent bulbs (CFBs) are often placed in the "market transformation" category. *Ex post* measured savings resulting from such rebates could be shown by comparing consumer purchases of CFBs in the affected area before and after implementation and completion of the rebate program,

The notion that PGC funds should be focused on "education" or other "market transformation" activities, without measurement of actual energy savings results, runs counter to the CPUC's increasing concern that public funds for DSM be used in a concretely effective manner with demonstrable results.

IAs would seek to achieve the DSM most cost-effective from a societal or total cost perspective, subject to considerations of customer class and regional equity, with the **GB** determining the amount of funds dedicated to low-income weatherization.

Existing utility DSM programs should be closed out at the end of 1997. The balance of the DSM bidding pilot contracts, which extend into 1998 and beyond, should be transferred to an **IA** for administration.

The profits for any company (including any utility or affiliate) implementing a PGC-funded DSM project would be included in the bid price or in the standard offer price. Thus, there would no need for the CPUC to continue the "DSM shareholder incentive" mechanism.

Consumer Protection and Decision-Making

This would be the responsibility of the **GB** and its staff, which would:

- compile and distribute information to consumers on DSM opportunities and the performance of **QESP**s;

- furnish to **QESP**s disaggregated customer usage data to enable efficient marketing of services and measurement of results, thereby increasing the ability of the private sector to provide cost-effective DSM services to customers with lesser use of PGC funds;

3. coordinate use of the utility billing systems for collection of QESP charges to customers, helping to overcome the "first cost" barrier to customer investment in DSM.

Market Assessment

The **GB** staff would be responsible for measurement and evaluation (M&E) of the performance of the **IAs**, and their contractors in achieving actual energy savings, including "market transformation," using protocols building upon those already adopted by the CPUC and by ASHRAE. The **GB** would develop a stable of independent M&E verification experts.

The M&E studies would also provide valuable information on how to reduce market barriers. All studies must be available to the public in order to achieve this benefit.

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compared with the pattern of consumer purchases in control areas.

The Role of the Regulated Utilities

Under the approach outlined above, the utilities can participate as **QESP**s on the same basis as any other company or government provider of DSM services. Providing energy conservation is not a natural monopoly and should not be "assigned" to a company with monopoly functions, for reasons including the following.

Designating the utilities as the entities to implement surcharge-funded energy conservation efforts may have the advantage, noted by the CPUC, of "captur[ing] the expertise and knowledge that the utilities have gained in administering DSM programs as we begin the transition." This advantage could be obtained in other ways, such as allowing the utilities to become **QESP**s and compete for funds on the same basis as any other private company. If utility-administered programs are truly the best, they will naturally come to dominate the market on the basis of performance, not pre-determination.

Designating the utilities to administer the funds for their service areas would appear to have several disadvantages, including:

- **It would assign the funds to entities with no apparent intrinsic motivation to achieve cost-effective energy savings.**

There would appear to be no intrinsic motivation for a utility administering surcharge energy conservation funds to devote those funds to achieving cost-effective energy conservation. To provide such motivation, the regulators would need to maintain a large part, if not all, of the present complex system of "command and control" over utility Energy conservation programs, including independent M&E studies, shareholder incentives for good performance and penalties for poor performance, and (as the CPUC has noted) an ERAM-type mechanism to decouple electricity sales from profits.

- **It would maintain the current "Balkanization" of DSM efforts.**

Currently, utility programs, including information programs, are directed to their own customers, even if efficiencies could be achieved through fuel-blind and supplier-neutral programs or programs operated on a unified statewide basis. With the potential for greater splits of service areas among multiple UDC's or even the continuing overlaps of different gas and electric UDC's, it would appear that a consistent, efficient delivery mechanism for Energy conservation services and information would be more efficient if not tied to the decades-old service territories of competing utilities.

- **It would assign the funds to entities with actual conflicts of interest in administering the funds.**

A utility would have a financial interest to use the surcharge funds to benefit its other business operations and, thus, its profits. The utility might seek to accomplish this by:

- conditioning participation in Energy conservation programs upon a customer's agreement to remain the utility's power customer for a long period (or to switch back to the utility as power supplier)

- targeting Energy conservation programs to the customers of other power suppliers, so that their loads are reduced while the utility's loads are not

- focusing Energy conservation programs upon customers able to provide support for the utility's regulatory and legislative agendas

- **It would provide an overwhelming anti-competitive advantage to utilities in the Energy conservation field.**

In a choice between allowing utilities to act as **QESP**s or allowing utility administration of surcharge funds, the public interest is better served by allowing utilities to use their expertise in customer service to act as quality **QESP**s, not in administration and control. And, yes, it is absolutely necessary to make this choice.

Even without administering the surcharge funds, the utilities will have massive advantages over other companies seeking to provide Energy conservation services. Without some form of regulatory compulsion, only the utility will have access to customer addresses, phone numbers, and (by far most important) billing histories that enable anyone providing Energy conservation services (utilities or ESCOs) to identify good prospects for treatment. Further, without regulatory intervention, only the utility will have access to the ratepayer-funded monopoly billing system, with its implied (although probably not available) consequences for non-payment (service shutoff).

In addition, it will be very difficult for the CPUC to monitor the utilities closely enough to prevent cross-subsidization of utility Energy conservation operations. Without meticulous and searching regulatory scrutiny, the utilities would be able to allocate some Energy conservation overhead costs to the functions that remain regulated monopolies (transmission, distribution). Further, the utility could also use other utility assets (whether or not ratepayer funded, such as the billing system) to promote the utility's own Energy conservation products and services but not those of competitors.

- **It would fail to capitalize on the utilities' strengths in customer service and satisfaction.**

On the other hand, limiting the utilities to performing as **QESP**s would allow them to fully utilize their highly developed customer service and satisfaction systems, in competition with other **QESP**s. The utilities' specialized strengths in DSM lie here, not in administration of competitive bidding or standard offer systems. The California utilities have not offered performance-based DSM competitive bidding except where compelled to do so by the CPUC. Even then, at least

two of the utilities have failed to implement the DSM pilot bids on the scale that the CPUC determined would provide a fair test.

- **It would assign the funds to entities already seeking to assert that information obtained via regulated monopoly functions is the exclusive property of each utility.**

Since the CPUC indicated its interest in electric utility restructuring by issuing the discussion paper "Blue Book" in 1994, the California regulated utilities have increasingly asserted that information about their customers (as mentioned above) and results of energy conservation measurement and evaluation studies are the confidential property of the utilities. An aversion to distribution of energy conservation information makes accountability to the public much more difficult.

Appendix __
SoCalGas Proposed PGC Administrative Option

As restructuring of California's electric utility industry proceeds, SoCalGas is increasingly concerned that policy changes will be enacted that disadvantage SoCalGas' customers. SoCalGas believes that the current mechanisms to provide energy efficiency services using utilities as the administrator and primary delivery channel for gas energy efficiency services is functioning effectively and will continue to work well after electric restructuring. The proposal for a public goods surcharge on gas users which requires utility regulators to alter current market intervention activities for gas only investor owned utilities (IOUs) is not needed to assure a vibrant gas energy efficiency industry in California.

Utility managers will certainly be under pressure to reduce costs in order to be more competitive, but regulators can ensure continued funding of cost-effective energy efficiency efforts using existing policies and procedures. In spite of gas industry deregulation and reduced gas costs that have limited the value of many energy efficiency efforts, SoCalGas' energy efficiency programs have continued to evolve. SoCalGas has maintained its commitment to energy efficiency goals because the majority of customers value those services. The CPUC has supported SoCalGas' commitment by providing appropriate financial incentives for cost-effective energy efficiency efforts. The current system has worked. The surcharge, if implemented, should only apply to electric customers. Any changes in the current administration of DSM funds should be cautiously considered.

1. Mission Statement

SoCalGas believes the mission of the Public Goods Administrator(s) is to promote the continued growth and development of California's energy services industry contingent upon that industry's continued ability to deliver cost effective energy savings. The Public Goods Administrator(s) will seek to transform the energy consuming public's attitude toward energy efficiency services in a positive and permanent manner so that the role of the Public Goods Administrator(s) will be unneeded in the near future.

a. Goals

The major goals of the Public Goods Administration function are to:

1. Promote continued growth and development of California's energy services industry;

2. Promote manufacturer commitment to the development and successful commercialization of high efficiency energy using equipment and appliances; and

3. Ensure that the value of public funds collected for energy services activities is fully realized.

The realization of these goals demand that exceptional efforts be made to ensure the smoothest possible transition from current demand side management efforts. In addition, continual vigilance of all costs associated with the delivery of services must be maintained to guarantee that customer dollars are most efficiently employed to create customer benefits.

b. Structure

Any authority chosen to administer Public Goods Surcharge funds should have the expertise, trained staff, and customer trust to effectively deliver energy efficiency programs to the community at lowest possible cost. The use of existing and tested administrative structures holds the best opportunity for a smooth transition period with minimal service and industry disruption. Further, an administrative function that builds upon existing groups and procedures is most likely to be the lowest cost alternative to meeting the major goals listed above. Planning, implementation, monitoring, reporting, and dispute resolution capabilities exist within current groups delivering energy efficiency services. These groups have the greatest capability to modify their functions in a manner that will afford the maximum customer benefit under a deregulated electric industry environment.

SoCalGas proposes implementation of a three-tier administrative structure comprising the CPUC, a set of DSM Advisory Boards, and utility distribution company program administrators. This three level administrative structure is largely in place and has been operating effectively for many years.

The CPUC would be the pinnacle of this public goods surcharge administrative function. The Commission would be responsible for establishing the appropriate aggregate public goods surcharge to be collected from California's energy users. It would be responsible for setting the percentage of those funds that will be allocated to third party bidders for the provision of energy services and establishing a transparent bidding process for the selection of third party service providers in each local utility area. The Commission would also be responsible for dispute resolution. Any issues unresolved by the DSM Advisory

Boards would be addressed by the Commission using existing CPUC dispute resolution procedures.

A set of four DSM Advisory Boards would be established to set region-specific policies for the use of PGC funds. Each of California's major investor-owned energy utilities (Southern California Gas Company, Pacific Gas and Electric Company, Southern California Edison Company, and San Diego Gas and Electric Company) would have a DSM Advisory Board. Four distinct DSM Advisory Boards would foster close links to customers and an ability to target program efforts most cost effectively to meet local conditions. Each Board would be an extension of the current DSM Advisory groups, operating under a more formalized structure with expanded responsibilities.

The Advisory Board would comprise both voting and non-voting members from the utility, regulatory bodies, consumer support groups, and energy service providers. Each local utility would have four of eight votes under the Advisory Board structure. The other parties would also have four of eight votes. For example, under the current regulatory structure and organization, SoCalGas envisions the non-utility voting representatives of its DSM Advisory Board as comprising members from the CPUC Division of Ratepayer Advocates, California Energy Commission, Natural Resources Defense Council, and an energy service company. The energy service company representative could not be an affiliate of the local utility. If a reorganization of the CPUC occurs, similar to that defined in the Vision 2000 descriptions, the Division of Ratepayer Advocates representative would be replaced with a CPUC industry group representative or with a representative from the CPUC consumer protection group.

The major responsibilities of each DSM Advisory Board would be to: establish sector-specific fund allocations for third party providers and for the utility distribution company; review and approve program plans; review market transformation progress and recommend changes in Public Goods Surcharge collection rates and allocations to the CPUC; and moderate disputes that cannot be resolved by the utility program administrator who reports to the DSM Advisory Board.

The local utility administrator would report to its DSM Advisory Board. The local utility administrator would be responsible for submitting an annual program plan to its Advisory Board for review and approval. The plan would define specific utility and third-party program efforts.

The local utility administrator would also be responsible for implementing the CPUC-defined bidding process to disburse third party PGC funds. The implementation of this

transparent bidding process, accompanied by DSM Advisory Committee review of the final results would ensure a fair, consistent process each year across service territories. As is currently done, program tracking, accounting functions, and measurement and evaluation efforts would fall to the local utility administrator (or their designate). Continuation of this system would ensure a smooth transition phase and no duplication of current services.

c. Dispute Resolution

Dispute resolution should not circumvent or alter current due process. Appeal right to the full Commission must be preserved in order to fully protect ratepayers, third-party service providers, and California's utility distribution companies. SoCalGas's proposed administrative structure employs existing dispute resolution processes to the maximum extent possible.

At the customer level, disputes regarding the utility or third party provider will typically be addressed by the utility. Each utility's existing call center will be point of first contact. If resolution cannot be achieved through existing customer service procedures, resolution will be attempted by the DSM Advisory Board (in its quarterly meeting or through special session). Failure to resolve the dispute at the DSM Advisory Board level will trigger CPUC involvement through the Commission's dispute resolution processes.

2. Functions

Some of the functions assigned to each level of SoCalGas's proposed PGC administrative function were described above in the discussion of the three tier administrative structure. Further detail and justification is provided below.

a. Setting policy for use of PG funds

The CPUC should provide general guidelines for the use of PGC funds based upon the goals to be achieved with those funds. The CPUC should define the general categories of acceptable use of PGC funds, the share of those funds that will be allocated for third party bid, and guidelines for evaluating whether the funds have been used effectively and for the full benefit of customers. Transparent bidding procedures should be established by the Commission to ensure fair and equitable treatment of third party and utility service providers across the state.

The DSM Advisory Board has a local policy role in determining the sector-specific PGC fund allocations for its region.

b. Allocating PGC funds to sectors/objectives

The CPUC Commissioners should establish utility specific allocation shares defining the amount to be collected from California energy customers. They should also define the share of funds collected by each utility that will be allocated to third parties for provision of energy efficiency services. SoCalGas believes that the opportunity for third party provision of energy efficiency services should be increased. Based upon our local knowledge of customers and service providers we believe that 25% of PGC funds collected from our customers should be allocated for third party providers. The Commissioners should review the third party allocation percentage annually.

Sector-specific fund allocations and allocations to meet region-specific objectives should be determined by the DSM Advisory Board. It is essential that sector-specific allocations be made at the utility level in order to reflect the unique conditions within each service territory. Regional differences in industrial mix, building stock age, historic DSM activity, and competitor service providers demands a local focus that cannot be obtained through the use of a centralized, statewide administrative structure for all aspects of DSM administration and delivery.

c. Develop program design or guidelines

Annual program guidelines, including proposed budget allocations, should be drafted by the utility program administrator for DSM Advisory Board approval. Detailed program designs should be left to the field service provider, be they the utility distribution company or a third party provider. This will allow for maximum creativity in program orientation and delivery. Each DSM Advisory Board will retain final approval of the detailed program designs. This will ensure that overarching CPUC goals are met and that the day-to-day utility program administrator takes appropriate actions regarding third party service providers.

d. Develop and approve budgets for specific projects/programs/services

Annual administrative and program budgets will be sent to the DSM Advisory Board by the utility program administrator. These budgets will be constrained by the overall budget annually determined by the CPUC, by the third party allocation of PGC funds, and by each DSM Advisory Board's sector-specific allocations. Projected program cost effectiveness will accompany the proposed budgets. Each DSM Advisory Board will have final approval of the annual budget for its area. Dispute resolution will begin with the DSM Advisory Board, but can be raised to the Commission, if necessary.

e. Procure services or develop RFP's within budgets

Services will be procured by the utility program administrator using processes defined by the CPUC. For example, bidding processes for third party energy efficiency services will be determined and detailed by the Commission. The DSM Advisory Board should be allowed to establish guidelines for the procurement of ancillary services as long as those procedures are acceptable to the CPUC. Requests for proposals will be developed by the utility program administrators, but will be subject to DSM Advisory Board review, both prior to RFP distribution and during the response period.

f. Deliver customer specific efficiency services

Third party energy service providers (including utility company affiliates) and each utility distribution company's traditional, regulated energy service groups will provide customer specific energy services. Acceptable services should be defined by the CPUC, but should include information services, financing assistance, maintenance services, design assistance, project management and customer incentives. Utility affiliates should be allowed to compete for PGC funds within their distribution company's service territory since their knowledge of the area should afford significant customer benefits. Self-dealing will be prevented by the use of a transparent bidding process (defined by the CPUC), by the oversight of the DSM Advisory Board, and by the existing CPUC dispute resolution processes.

SoCalGas does feel that the CPUC should make explicit efforts to move away from ratepayer-funded incentives and toward more use of participant-funded efforts. Such efforts would certainly engender broader customer support for CPUC sponsored energy efficiency efforts and services.

g. Deliver programs designed to benefit broad customer classes or market sectors

Nothing should inhibit the design and delivery of programs that will benefit broad groups of customers or economic sectors, if those programs are shown to be cost-effective using widely-accepted criteria. Third party providers and utility program providers should be free to propose broad-based program efforts. Such efforts may be more effective than narrowly-targeted efforts. The broad-based programs must be presented to the utility administrator and, ultimately, to the DSM Advisory Board in a manner that allows fair comparison with other proposed programs.

h. Participate in upstream or statewide/national market transformation programs/activities

Upstream programs attempt to remove market imperfections that prevent the development, commercialization, and wide distribution of cost-effective, high efficiency products. Program efforts successful at addressing such market imperfections can yield substantial consumer benefits. The administrative structure proposed by SoCalGas supports the allocation of PGC funds to such efforts. Individual DSM Advisory Boards and their associated utility can fund such efforts (if they can be shown to be cost-effective or have a reasonable chance of being cost-effective). The small number of DSM Advisory Boards (four) and the likelihood that some non-utility members will be on more than one Board, suggests that funds may also be pooled across Boards. Nothing within the proposed structure prevents such pooling efforts. In fact, the existence of the DSM Advisory groups should foster such efforts.

i. Measure effectiveness of each activity/program

Program effectiveness should be measured using existing protocols, albeit under a timeframe less than the current 8-10 year measurement cycle. The Commission, Commission staff, consumer advocacy groups, and California's electric and gas utility companies undertook substantial effort to develop a set of measurement and evaluation protocols acceptable to all parties. This effort must only be streamlined.

Responsibility for evaluating activity and program effectiveness should reside with the utility program administrator, subject to a set of consistent, CPUC-defined protocols. Measurement efforts should be built into each program. Measurement results should continue to be reported in the AEAP filing required of each utility.

j. Track fund expenditures and report on results

As with measurements of program effectiveness, PGC fund expenditure should be tracked by the utility program administrators and reviewed by their DSM Advisory Board prior to submission of an annual summary report to the Commission (as part of the AEAP filings).

The Commission should define a consistent tracking procedure so that comparisons between the four DSM Advisory groups can be readily accomplished.

k. Assess progress in reaching market objectives set for the use of PG funds (Strategic Assessment)

An annual strategic assessment of region-specific progress should be made by each DSM Advisory Board. Each assessment should contain an historic record and a record of goal revisions (if applicable). The four region specific assessments should become part of an annual statewide assessment conducted by the Commission itself (funding would be provided from PGC funds).

The annual strategic assessment conducted by the Commission would influence subsequent PGC collection levels and the CPUC allocation of funds for third party bidding. The initial 25% allocation to third party bidding could be adjusted to reflect the value obtained from third party energy service providers relative to traditional, regulated utility providers of energy services.

l. Deliver customer protection/assistance

As discussed above, customer assistance would continue to come from existing utility call centers and associated customer service functions. Rudimentary customer protection activities would also flow from the existing non-utility customer service activities (supplemented by Better Business Bureaus and the various state and local agencies that provide customer protection services).

Customers would be notified that they could contact the DSM Advisory Board and/or the CPUC to obtain further redress. Considerable effort should be made to handle customer protection/assistance through existing channels so as to prevent the need for a costly new customer service infrastructure at the DSM Advisory Board and CPUC levels of the PGC Administration function.

m. Enforce policy decision from Board

The utility program administrators would have strong incentive to enforce policy decisions stemming from their DSM Advisory Board because of the threat of a shareholder penalty being levied by the Commission. The imposition of utility shareholder earnings mechanisms in the Collaborative revitalized declining utility demand side management efforts in California. Continuation of shareholder earnings mechanisms that, at a minimum, cause California utilities to be indifferent to selling or saving a kwh or therm, is essential to maintaining utility support for DSM efforts. Similarly, shareholder penalties for failure to enforce DSM Advisory Board and/or CPUC policy decisions will ensure appropriate policy enforcement behavior on the part of utility program administrators.

3. Key Issues

a. Accountability

Each utility will be responsible for day-to-day operation of non-bid market transformation programs. They will also be responsible for oversight of third-party (i.e., "bid") projects. Annual reporting will be continued through the AEAP process. Utility administrators will be accountable for fair and efficient delivery of services because of the penalty we believe should be imposed if underspending results or if CPUC policy decisions are not enforced.

In order to promote accountability the CPUC should set baseline energy efficiency expenditures at a fixed level, e.g., the 1996 funding levels. Expenditures should be monitored using current procedures and using the four DSM Advisory Boards. Utilities that do not meet a minimum of 90% of forecast funding levels should be penalized, except under extreme circumstances beyond the utility's control. Such circumstances would include market conditions underlying major programs changing dramatically and preventing planned delivery of energy services or a third party service provider failing finalize a contract with the utility program administrator and no alternative service provider available with whom to employ the allocated funding. The imposition of a shareholder penalty will prevent underspending of allocated dollars.

Demanding continued cost-effectiveness evaluations on an annual basis (and building such analyses into program designs and contracts) will ensure that the absolute funding levels are appropriate and that individual program providers are held accountable.

The CPUC should not intervene beyond current processes and procedures unless utilities reduce funding levels and cost-effective energy efficiency opportunities remain evident.

Potential conflicts of interest will be mitigated by the imposition of a transparent bidding process, by the formal DSM Advisory Board review of program plans, and by a dispute resolution process that links to existing, effective CPUC dispute resolution procedures.

b. Costs

The costs of the proposed SoCalGas administrative structure should be borne by PGC funds, with the exception of costs incurred irrespective of DSM activities (e.g., call center infrastructure costs, certain utility accounting system expenditures, etc.). All of the costs should be reported annually for public review.

Since the SoCalGas administrative structure builds upon existing systems and procedures to the greatest extent possible, the incremental costs are modest relative to centralized administrative structures with no historic precedent.

c. Feasibility of Implementation

The SoCalGas administrative proposal is easy to implement. It employs already existing administrative structures at all levels of the three-tier administrative function. It can accommodate subsequent changes in the internal organization of the CPUC.

It's major requirements are only:

- a modest redefinition of the role of the current DSM Advisory Groups into DSM Advisory Boards with binding power over certain aspects of DSM planning and implementation;

- the development of a transparent third party bidding procedure for the allocation of funds not slated for utility program use; and

- the establishment of consistent CPUC guidelines for the selection of appropriate energy services programs by the utility program administrator in conjunction with the administrators DSM Advisory Board.

A PROPOSAL

Administration
of the
Public Goods Charge Fund

Submitted by the
Department of General Services

PROPOSAL

Administration of the Public Goods Charge

Submitted by the
Department of General Services

Overview

The Public Utilities Commission (PUC) has an opportunity to positively impact future decisions by both consumers and utilities that will lead to reduced energy use and cost and to innovation and technological advances in energy.

Summary of Proposal

We propose that the PUC create a Public Energy Goods Board, charged with the responsibility for administering the Public Goods Charge funds in a manner designed to create the greatest public benefit by:

- directly reducing the electric bills of the most needy;
- encouraging decisions by individuals which will serve the long-term best interests of society through the cost-effective minimization of energy use and associated pollution; and
- promoting innovation and technological advancement in the area of energy use.

Initial PUC Actions

- The PUC appoints a Public Energy Goods Board ("the Board") consisting of three members appointed by the PUC (2) and the Energy Commission (1).
- The Board, in collaboration with others as appropriate develops eligibility criteria, which are incorporated into the contract with DGS.
- The Board executes an Interagency Agreement with the DGS to operate the program(s) starting January 1, 1998.
- Utilities collect the Public Goods Charge (PGC) from ratepayers in an amoun and for a duration determined by the Board.
- PUC requires the utilities to deposit the PGC funds to a special account with accounting of the amounts by customer class provided to the Department of General Services (DGS).
- DGS then administers the distribution of funds in accordance with criteria developed by the Board.

This set of programs could encompass standard offer programs including rebates market transformation programs, RD&D grants, and other programs. A program

("Voucher System") is described on page 12 which we believe would be most effective at converting the energy services market to a fully competitive, non-subsidized market, and intend to advocate to the Board.

Low-Cost Fund Administration by DGS

By employing existing resources in the Department of General Services, and designing programs that efficiently stimulate the marketplace (such as the vouche system described on page 12), DGS believes these programs can be administered for amounts on the order of 1 percent of the funds being managed. Other more complex, staff-intensive programs will clearly require more than this, but could also be very efficiently managed. There would be a number of activities performe by DGS to ensure efficient operation of the program. These would include:

- Program accounting, reporting, and fund management through the Office of Fiscal Services (OFS).
- Contractor selection and contract management for inspection contractors, as well as other program consultants through the Office of Energy Assessments (OEA).
- Ongoing maintenance of program staffing.
- Information materials, application and voucher printing, inventory, etc.
- Statewide service for in-person information, application pickup and submission, and coordination of customer contacts through the Office of Buildings and Grounds in all state office buildings (OBG).
- Dispute resolution through the Office of Administrative Hearings (OAH) (mediation and arbitration services) .
- Regular OEA attendance at Board meetings to receive direction with respect to the programs, provide feedback on the relative success of the various programs undertaken at Board direction, as well as general communication.
- Data collection and reporting for input to the Board's strategic assessment activities provided by OEA.

Value of Competition: Termination Clause and Performance Standards

Competition at various levels of the operation will promote program efficiency overall. Competition and multiple providers at the service provider level as well at the program administrator level (DGS' contract) should serve to reduce costs and increase efficiency. We expect to include a termination clause and performance standards in the contract.

Department of General Services

Background

The Department of General Services (DGS) consists of six operating divisions comprising 21 offices that provide a broad range of business services to

government. The department's functions include procurement and contracting fo goods and services, real estate and design for state buildings, telecommunications fleet management, information services, printing, architectural services, energy efficiency, and building maintenance. The department is a participant in the performance-based budgeting pilot project, which has resulted in a number of changes to the practices of budgeting and fiscal oversight of the department, allowing more flexibility to respond to client agencies' needs in a timely fashion.

The Department has a staff of 3,600 and an annual budget of over $500 million. In this proposal four offices will have major roles, with others available as the ne may arise. Those four offices are: the Office of Energy Assessments; the Office Fiscal Services; the Office of Buildings and Grounds; and the Office of Administrative Hearings. Other offices whose services would be available throu the contract would be the Executive Office, the Office of Human Resources, the Office of Legal Services, the Office of Procurement, and the Office of the State Printer.

Office of Energy Assessments (OEA)

The OEA provides services that reduce energy costs to our clients. These service include energy efficiency project development, energy purchasing, energy management, and advocacy in energy regulatory forums representing the State's consumer interests.

The OEA has been providing energy services to State and other public sector clients since 1980. We have 21 full time, and 10 part-time employees, as well as about 20 private sector firms on retainer to the Office. Operating as we do in the outsourcing mode, the OEA is well suited to adding or subtracting workforce quickly in response to client needs. We are not now nor have we ever been a mandated monopoly government service. We operate on a fee-for-service, voluntary, entrepreneurial basis. Consequently customer service is our top priority.

The OEA administers the Energy Efficiency Revenue Bond Program, a $500 million authorization to provide capital for energy projects. Using this and other sources of funding (primarily "third party" private investment capital), we have developed some $450 million worth of energy efficiency and production projects which will save client agencies about $500 million net of repayment of capital. The Office also manages the Natural Gas Procurement

Program, which purchases gas for 78 public institutions as of this writing, saving taxpayers approximately $3.5 million per year.

Our role as regulatory sentinel for the state's interests as a large consumer of energy provides us great familiarity with regulatory processes, goals, and constructs, allowing us to operate efficiently and without a training period in the

context of Public Goods Charges, DSM programs, and other regulatory mandates

The OEA will be the principal point of contact within DGS for the purposes of Public Goods Charge administration.

Office of Buildings and Grounds (OBG)

The OBG consists of approximately 1,050 employees, and is divided into Management Units located in Sacramento, San Francisco, Oakland, Santa Rosa, San Jose, Stockton, Redding/Red Bluff, Fresno, Los Angeles, San Diego, Van Nuys, Long Beach, Santa Ana and, San Bernardino.

The office manages assets of approximately 200 DGS-owned and other agency-owned office buildings which encompass 17+ million square feet of office space and over 100 acres of grounds.

The OBG's mission is to provide a safe and healthy work environment for State employees and the public through the use of a systematic preventive maintenance program, and to protect the State's investment in real estate and provide building management services with equal or greater efficiency and economy than can be obtained from the private sector. Over the years, the scope of responsibilities has broadened beyond routine tasks such as janitorial and mechanical maintenance to include the following areas:

- environmental control related to indoor air quality hazardous waste mitigation and pest abatement;
- managing historically significant buildings;
- architecture, engineering, and construction -- the planning and construction of new state facilities and remodeling existing facilities, planning office designs and layouts;
- initiating and managing contracts where privatization proves to be feasible; and
- revenue collection and management.

Several factors which have shifted OBG's mission from maintenance to asset management are:

- state-of-the-art buildings require staff with special skills to operate them;
- the Administration's Asset Management Program strategically plans comprehensive management of the State's diverse real estate portfolio to ensure the optimum use and most efficient servicing of the State's real property assets;
- DGS' agreement with the Legislature to improve its operations and enhance responsiveness through performance-based budgeting; and
- the Department's commitment to quality management principles.

The Office of Buildings and maintains a publically accessible "Office of the Building" in each of the buildings we manage. This accessibility will facilitate ppublic awareness and use of various Public Goods Charge programs, without establishing a new bureaucracy or increasing an existing one.

Office of Fiscal Services (OFS)

The OFS' primary responsibility is to provide centralized budgeting and accounting services to the offices of the Department of General Services and similar services to other state agencies on a fee-for-service basis. More specifically, these services include cash flow management, property accounting, payments, budget adjusting, Governor's Budget preparation, cash receipting, billings/collections, financial management reporting and financial consulting. Th office is organized into three sections: the Budget and Planning Section, the DGS Accounting Section and the Contracted Fiscal Services Section. Overall, the office's budget is approximately 126 personnel years and $9.0 million.

The services provided by the Budget & Planning Section and the DGS Accountir Section directly support only the offices within the Department of General Services. The Contracted Fiscal Services Section provides services to customers outside of the Department of General Services on a fee-for-service basis. Presently, the Contracted Fiscal Services Section provides services to 36 state agencies and has a budget of approximately 26 personnel years and $2.1 million.

Office of Administrative Hearings (OAH)

The OAH has been in existence since 1946 providing hearings and related adjudicative services to a variety of state and local agencies. At present we employ about 40 Administrative Law Judges in four regional offices (Sacramento Oakland, Los Angeles, and San Diego). We calendar 6,000 cases annually for more than 50 different agencies and render 3,500 written decisions. Of the 2,500 cases which do not result in a decision, most are settled.

Most cases involve actions by regulatory agencies against persons or entities they regulate. These include, for example: contractors, engineers, certified public accountants, real estate brokers and salespersons, physicians, nurses, psychologis and community care licensees of the Department of Social Services. OAH also handles personnel cases for local agencies including adverse actions and disability claims. We sit on matters involving the dismissal of tenure teachers and community college instructors. We also handle all of the entitlemen cases and level of service appeals for the Department of Developmental Services.

We are trained and experienced arbitrators, using these skills weekly in our mandatory settlement program. Many of our judges have attended and completed the certificated civil mediation course at the National Judicial

College in Reno, Nevada. We are presently mandated to draft model alternative dispute resolution regulations for all state adjudicative agencies which we will promulgate on or before July 1, 1997.

In summary, we deal with many agencies and are called upon to interpret and apply literally thousands of substantive statutory and regulatory provisions. Each year new agencies are added to our list of clients which increases the diversity even more. Based on this, we are confident that we would have no problem meeting the expectations of the Public Utilities Commission and the parties to disputes.

Functions and Roles

Overview

One of the key features of this proposal which should be emphasized is the separation of the policy and execution functions. We perceive this to be critical t the effective operation of the system by allowing the policy functions to proceed without being fettered by the day-to-day operations of the programs, and conversely the operations can proceed efficiently without the confounding effect of the full consideration of a variety of viewpoints which properly accompanies a policy decision-making forum. A contract provides a strong, yet easily changeab bond between the two organizations which keeps roles and responsibilities clearly delineated and allows the parties to remain focused on the tasks before them.

PUC Role

To this end, we suggest that the Commission should set forth a vision for the Board, including the scope and scale of its activities, goals and objectives, and th preferred mode of operation. The Commission should, through its own

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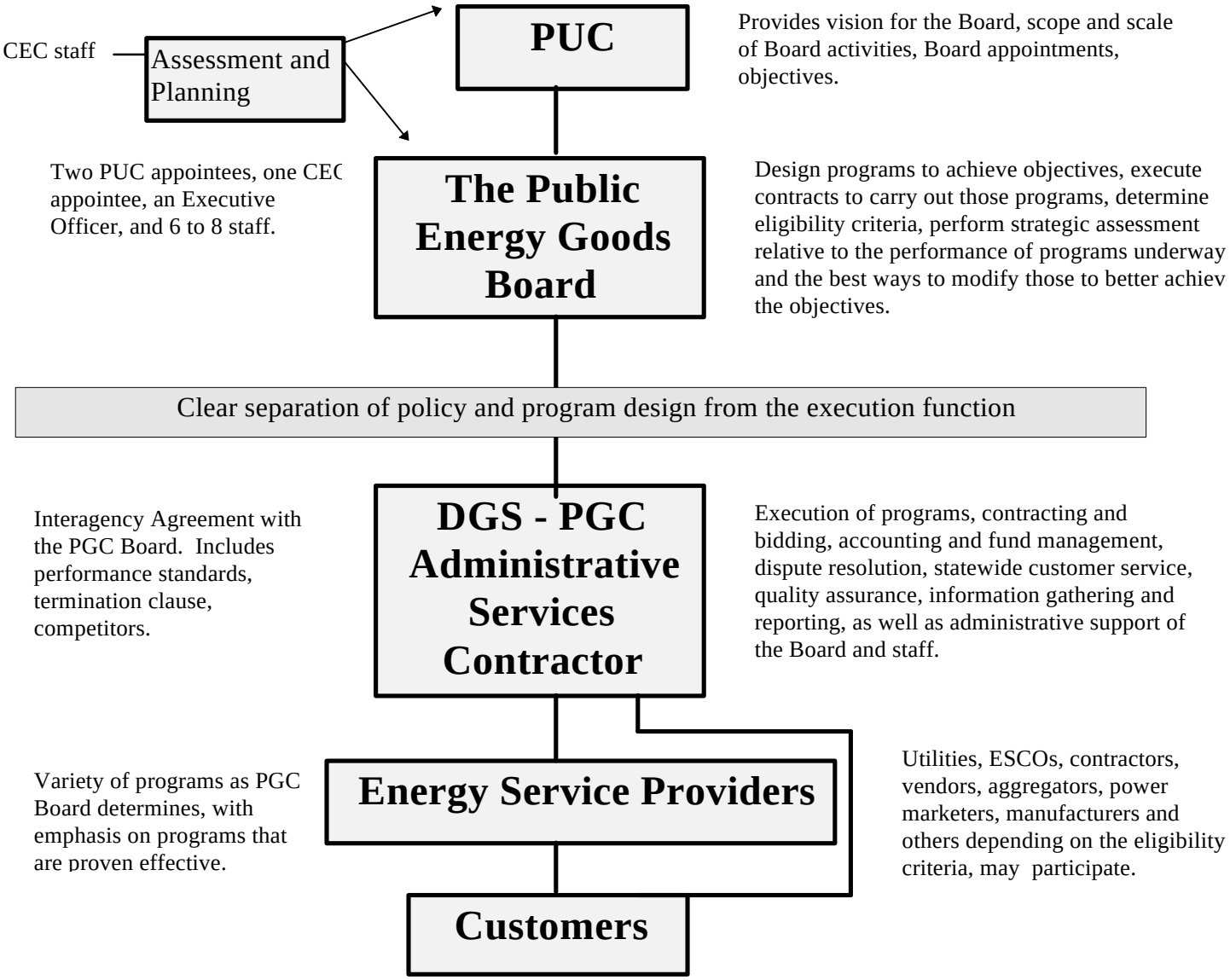
staff as well as the Energy Commission staff, receive feedback on the Board's progress or lack thereof in achieving its goals, and perform strategic assessment and planning for improving the progress.

Board Composition

We suggest that the Board consist of two PUC appointees and one CEC appointee, all of whom would be full-time positions. The small size of the Board will allow it to work faster and more decisively than a larger board, and the odd number will prevent deadlocks. The Board would hire an Executive Officer, wh would in turn hire 6 to 8 staff members. Administrative functions will be contracted out, in order to allow the staff to remain focused on their policy objectives. Due to the large amount of money and the small number of staff, we recommend that they be well qualified, and compensated accordingly.

Board Functions	The Board, with the support of the staff, will develop programs and determine funding levels of those programs to achieve the goals and objectives as set forth by the PUC. Criteria for eligibility for the various programs will be clearly set forth as part of the program design. The Board will then contract for the execution of those programs. As experience is gained with the programs, the staff will analyze resulting data and evaluate the effectiveness of programs, recommending improvements to the Board for adoption and subsequent amendment of the contracts.
DGS Functions: Administrative Services Contractor	DGS proposes to be the PGC Administrative Services Contractor and perform a variety of functions to carry out the programs for which it will have contracted. These functions include: accounting and fund management of the accounts for each customer class from each utility, bidding and contracting for subcontractors for various functions such as site inspections, development of educational materials, legal advice, dispute resolution through mediation and arbitration for a matters related to the role of the Administrative Services Contractor, providing statewide customer access and service through the staffing of public counters, distributing informational materials, accepting in-person applications or other correspondence, quality assurance and project management, information gatherin and reporting to the Board and to the public generally as well as communication and liaison to the Board.

Public Goods Charge Independent Administrator - Organization Department of General Services Proposal



Key Issues

Independence

As a state government agency, DGS is clearly independent of the utilities, and of the various ESCOs and utility affiliates. As a line administration department (reporting to the Governor), it is also independent of the PUC.

Accountability

The Board reports to the PUC and derives its authority from it. DGS, as the administrative services contractor, will be responsible to the Board through the interagency agreement between the two organizations. DGS' contractors, namely Energy Service Providers and consultants, will be accountable to DGS through the terms of those contracts.

As a public agency, DGS has the greatest accountability of any of the candidates for the role of independent administrator. There is virtually no possibility of personal financial gain as a consequence of decisions rendered in the course of administering the funds, and all transactions will be completely transparent, reportable, and auditable. All of the managers and executives and many of the staff proposed to be involved are already subject to annual financial disclosure requirements and under the purview of the Fiscal Integrity of State Managers Act which gives them considerable personal exposure for liability for financial missteps.

Costs

The low cost of this proposal is one of its most attractive features. For a program that strives for efficiency in stimulating markets, leaving the most money available for the actual intended purpose and using a minimum for administration, such as the voucher system proposed, DGS estimates that costs for its administrative services contractor role will be approximately one percent of the funds administered. All costs will be billed to the fund on a time and materials basis at published DGS hourly rates plus a pass through for contractor expenses.

Feasibility

This proposal has a high degree of feasibility given the fact that DGS is ready, willing, and able to deliver programs, and can easily be operating the new programs by January 1, 1998. The critical path is in establishing the Board, and the Board in turn approving programs and entering into contracts. Since an Interagency Agreement with DGS is a negotiated arrangement, an interim contract could be put in place simultaneously with the establishment of the Board, potentially saving months, without compromising flexibility in the future.

Preferred Alternative: Voucher System

This proposal suggests that decisions regarding the type and nature of DSM programs be decided by the PUC in broad scope, and the Public Energy Goods Board in specifics. It is our considered opinion, through experience with a great many of the programs offered by utilities to date, that the most effective programs at bringing about transformation of markets are those that stimulate the market with monetary incentives, but leave other manipulation to a minimum. Rebate programs should be:

- aimed at specific technologies;
- broad in scope; and
- sized based on the kW and kWh reductions.

These programs are the best understood and enjoy the greatest participation by customers, and are the most cost-effective at bringing about changes in markets.

The following suggestion is put forth as one vision of a very cost-effective program that would make good use of the services offered through DGS. The voucher system proposal envisions a future where the PGC is collected for only a limited time, e.g. 5 years, with the notion that it is to provide a transition to a fully competitive marketplace for DSM. Once transitioned, the industry would not be a monopoly, and as such would not require regulation by the PUC. There is much that will happen over the transition o the electricity industry to a competitive marketplace, and it would be premature to conclude that this declining subsidy approach will work adequately to provide a soft landing. We put it forward here as a goal for the Board to work toward, checking its progress along the way.

The voucher program would operate as follows:

- Utilities, individuals, ESCOs, public agencies, or end users fill out a simple application indicating basic information, project site and description, amount of rebate for which qualified, and some evidence of site control (to prevent oversubscription).
- Applications could be filed in person at any State Office Building, or by mail, or via the Internet.
- Without making any judgment as to the ultimate eligibility of the projec described in the application, DGS issues a voucher to the applicant, encumbering funds in the PGC Account.
- Applications for funds in excess of the available funds are queued in the order in which received.
- Upon completion of the project, applicant calls DGS for an inspection.
- DGS, through an engineering contractor, inspects the project and signs the certification of eligible technology, appropriate and adequate construction, and accuracy of savings calculations, in accordance with

the eligibility criteria developed by the Board.

- Applicant surrenders the voucher, along with the certification, to DGS.
- DGS processes the voucher by verifying rebate amount, certifying funds availability, converting the encumbrance to a payment, and scheduling the payment to the Controller.
- Controller issues warrant to applicant.
- Disputes by contractors or other applicants regarding the disbursements will be first mediated, and if necessary, arbitrated by the OAH.
- Vouchers unclaimed after a specified period of time, say one year, will expire, and funds will be unencumbered and returned to available status
- Any funds unused from any accounting period will roll over into the fur for the following period.

Conclusion

The Department of General Services, through its various existing functions, is uniquely qualified and positioned to deliver Public Goods Charge Administration services of the highest quality. Choosing this alternative wi

- eliminate fear of unfair exercise of monopoly power;
- eliminate the need to create a new bureaucracy
- eliminate conflicts of interests from affecting the actions of employees;
- provide the highest degree of flexibility; and
- provide the lowest cost solution.

We look forward to working with the Commission and its new Board to begin to improve these vital services to the people of California.

The Energy Efficiency Fund of California

A proposal by the Sierra Club for the independent, nonprofit administration of the energy efficiency component of the Public Goods Charge

Introduction

Public goods associated with energy efficient products and services consist primarily in the reduction of pollution and other environmental impacts from energy production and use which society would otherwise incur. The purpose of the energy efficiency component of the Public Goods Charge is to reduce pollution associated with the production and use of electricity and natural gas by providing an additional source of capital dedicated to increasing the efficiency with which energy is used in California. **The mission of the Energy Efficiency Fund of California is to direct the flow of this capital back into the private sector so as to maximize the market share of energy efficient products and services in the larger energy services market, thereby minimizing energy production and consumption.**[1]

It is a fallacy to believe that in a few years, this market will be "transformed" and that energy efficient products and services will no longer provide public benefits. So long as the cost of pollution and other environmental and social impacts are not appropriately internalized in energy prices, private markets will not minimize total societal costs. The most direct and effective "market transformation" mechanism would be to tax carbon emissions and other pollutants at a rate equal to their social costs. The Public Goods Charge mechanism should be considered an interim strategy which must be maintained until such time as energy prices reflect total costs and our energy system becomes sustainable in the long term.[2]

The problem at hand is how to use the money raised by this charge to maximize public benefits. After more than two years of discussion with a wide variety of stakeholders, we believe the independent nonprofit administrative framework described here would be the most effective in achieving this goal, is fully consistent with the letter and intent of the California Public Utility Commission's restructuring decision,[3] and could be fully implemented by January 1, 1998.

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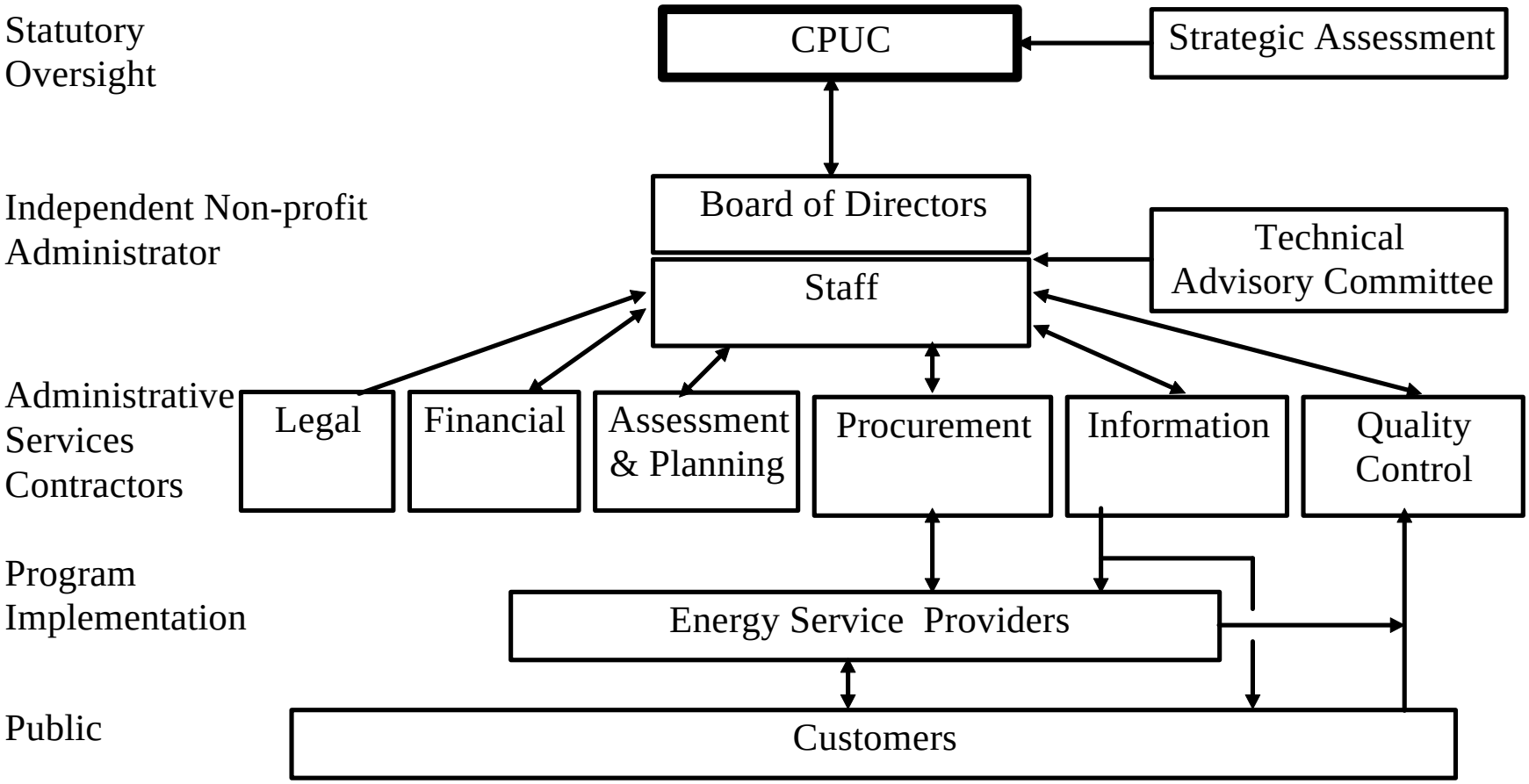
[1] We believe the Energy Efficiency Fund of California could administer the entire Public Goods Charge, including, as envisioned in AB 1123 now before the California Legislature, funds for low income services, research and development, and renewable resources, as well as energy efficiency funding. We discuss this option further in section 7 below.

[2] The Public Goods Charge appears to be the only mechanism available to the Commission which can respond to environmental impacts which may arise from electric industry restructuring. Lower electricity prices can be expected to increase demand, which may lead to additional air pollution, for example. If the restructured industry is more polluting that the present, the PGC should be increased.

[3] D. 95-12-063, page 156, "After a short transition period, we believe the funds collected through a surcharge for energy efficiency should be competitively allocated by an independent, nonprofit organization, but we would like to capture the expertise and knowledge that the utilities have gained in administering DSM programs as we begin the transition."

Independent Administration of PGC Energy Efficiency Funds



1. Independent Administration of PGC Energy Efficiency Funds

Oversight and administration of the Energy Efficiency Fund of California (the Fund) described in this proposal has been designed so as to:

- Maximize the return of Public Goods Charge (PGC) funds to the private sector and minimize administrative costs;
- Minimize the potential for misuse of PGC funds by maximizing the independence of administrative decisions from non-consumer financial interests;
- Maximize compatibility with competitive generation markets;
- Minimize disruption of existing markets for energy efficiency products and services;
- Maximize public scrutiny of administrative effectiveness and prevent the development of entrenched administrative bureaucracy.

The Fund relies entirely on the private, competitive, unregulated marketplace for the delivery of energy efficiency products and services through transactions between willing sellers and buyers. The role of Fund administration is to direct the flow of capital raised through the PGC to this marketplace. To understand how the Fund operates, it is necessary to consider not only the administration of the Fund itself, but also the roles of the California Public Utilities Commission and contractors which provide administrative services under contract to the Fund's administrators.

1a. Role of the Public Utilities Commission

Under current statutes, the California Public Utilities Commission (the Commission) has the responsibility for oversight of funds to promote energy efficiency which are collected from customers of investor-owned utilities under Commission jurisdiction. This proposal assumes the Commission's oversight responsibilities will continue until the California Legislature directs otherwise. The Sierra Club is proposing to the Legislature that oversight of the PGC be assigned to the California Alternative Energy and Advanced Transportation Financing Authority.[4]

The Commission controls the Fund by means of a fixed term contract with an independent, nonprofit corporation which administers the Fund according to guidelines established in the contract. We recommend that the initial contract extend through the year 2005, when the Commission predicts that most stranded generation costs will have been recovered and the behavior of competitive electricity markets can be better understood.[5] The contract includes guidelines for the allocation and accounting of money in the Fund

[4] Since this proposal is responsive to the Commission's restructuring decision and legislative action is uncertain, we have assumed that the Commission will control the Fund in the near term. The proposal does not change substantially if the Legislature assigns control of the Fund to the California Alternative Energy and Advanced Transportation Financing Authority or other state agency. The reader is encouraged to consider variations on this proposal with other state agencies filling what is presented here as the Commission's role. As we go to press, the Sierra Club continues to work with other stakeholders on the oversight issue.

[5] Discussions are now underway to establish a qualified nonprofit corporation to bid for such a contract. It is unclear whether meaningful competition for the initial contract will develop, or whether the Commission should assist in the development of the initial administrator and use a competitive process in the future to choose a successor.

and specifies how administrative performance shall be monitored and evaluated. It specifies the process by which the contract can be amended and a method for settling disputes between the Administrator and the Commission. It also specifies how the Administrator's directors are chosen and establishes rules governing directors' conflicts of interest. (Recommendations for these guidelines and specifications are discussed below.)

The contract between the Commission and the Administrator also specifies what services will be made available to the Administrator by the Commission or by other state agencies. For example, the Commission should make its customer protection staff available to the Administrator when called upon; the Commission may rely on the California Energy Commission for "strategic assessment" of energy markets and the Administrator's performance. In addition, the contract should indicate what and how customer billing information will be made available to the Administrator, and what access the Administrator will have to bills for the purpose of disseminating information.

No estimates are available for staffing requirements to prepare the contract and a solicitation, if the initial contract is to be awarded competitively. The Commission's oversight role should require only minimal staff, once the Fund and its Administrator are established.

1b. The role of administrative services contractors

This proposal envisions that the Fund Administrator will minimize its own staffing requirements by relying to extent feasible on competitive consultants and contractors to supply administrative services necessary to manage the flow of Fund capital to the private market. These services might usefully be organized as:

1. Legal
2. Financial
3. Planning and program assessment
4. Information
5. Procurement
6. Quality control

1) Legal services ensure that the obligations entered into by the Administrator are consistent with the contract between the Administrator and the Commission, and that all obligations are met.

2) Financial services include accounting, auditing, banking, reporting, etc., so that all money in the Fund is accurately accounted for and reported to the appropriate entities. Financial service providers might include accounting and auditing firms, banks, and public agencies like the Department of General Services.

3) Planning and program assessment services assist the Administrator in deciding which activities the Fund should support and monitors their performance in achieving program goals. Providers might include public agencies like the California Energy Commission and Lawrence Berkeley Laboratories, private consulting firms, and utility affiliates.[6]

[6] The potential role of utility affiliates in providing administrative services is highly controversial because of the large conflict with the utility's generation interests. Guidelines established in the contract between the Commission and the Administrator must specify how conflicts of interest of any administrative service provider be handled. Since contracts between the Administrator and service providers should be let

4) The development and dissemination of accurate information to buyers and sellers of energy efficient products and services will be an important function for the Fund Administrator. Providers of these services are likely to be private marketing and public relations firms and consultants, community service groups, manufacturers and retailers, and public agencies like local building departments. The utilities, in their present role as provider of information services and at ratepayer expense, have developed valuable software, databases, and facilities such as the energy centers. The Commission should consider which of these assets would be appropriate for acquisition by the Fund.

5) Procurement services manage the flow of Fund capital to the private market, which represents most of the money collected through the PGC. We propose that as much of this funding as feasible be made available through "standard offers" which are available on a continuous and open basis to any buyer or seller of approved products or services.[7] Experience in other states has shown that standardization of programs to provide financial support reduces administrative costs markedly and improves program cost effectiveness.

Procurement services include the processing of incentives to buyers or sellers of energy efficient products and services, processing of loans and other financial instruments, and management of contracts for non-standard programs. Service providers might include financial institutions, management consultants, and public agencies like the Department of General Services.

6) Quality control services determine whether specific programs produce their intended results and are essential to the Fund's effectiveness. Program measurement and verification are activities which fall in this category, as do other contract monitoring activities.

It should be noted that while energy *consumption* can be measured without difficulty, measurement of energy *savings* is complex and controversial. Computation of energy savings from individual measures may depend on many parameters which cannot be known exactly. Never the less, reliable estimates of energy savings are essential to evaluate programs supported by the Fund. Entities providing these quality control services must be free of conflicts of interest with all other providers of administrative services and market participants.[8]

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competitively, no provider should be exempt from anti-trust laws. And, at the very least, no service provider should have a financial interest which conflicts with the Administrator's goals.

The utility coalition proposes that the utility distribution company retain a monopoly, or near monopoly, on the provision of administrative services, which defeats the purpose of independent administration and guarantees that the problems besetting the present system will continue.

Other parties propose that utilities retain some administrative functions for some length of time, in order to provide continuity and prevent "gaps" in program support.

We do not rule out, at the present, a limited and temporary role for the utilities in the provision of administrative services, but recommend that this issue be addressed subsequent to a thorough audit of utility assets and liabilities associated with their present administrative role. The issue of how utility expertise can best be utilized by the independent administrator is discussed further in section 4 below.

[7] In its simplest form the standard offer is an offer of a fixed payment for every kilowatt-hour saved. In practice, standard offers are complicated by the necessity of verifying the energy savings.

[8] The potential for biasing these estimates in order to maximize private benefits for utility administrators provides the most important rationale for independent, nonprofit administration of the Fund. By under-estimating energy savings, an administrator can falsely claim a measure is not cost effective and discontinue it. By over-estimating energy savings, an administrator can profit from increased incentive

Several public agencies are capable of providing quality control services. In addition, many private consultants and contractors now provide these services to utility administrators and could continue under contract to the Fund, so long as potential conflicts of interest are eliminated.

2. The role of the independent Fund Administrator

The role of the Commission is to set policy guidelines for the expenditure of Fund capital; the role of administrative service contractors is to manage the flow of this capital into the market. The role of the Fund Administrator is to translate the policy guidelines, as expressed in its contract with the Commission, into strategies which can be implemented through contracts with the competitive administrative service providers described above. Clearly, while the role may be simple to describe, it will be require substantial wisdom and effort to fulfill.

We propose that the Administrator be a nonprofit corporation under California law, governed by a Board of Directors comprised of individuals representing primarily electric and natural gas consumers from all customer classes. The Fund should have an executive director responsible to the Board and sufficient staff to provide Directors with necessary information and carry out the directions of the Board.

2a. The administrative Board

We propose that the administrative Board of Directors consist of seven members chosen by the Commission from a slate of candidates nominated by consumer and environmental advocacy groups, such as TURN, CMA, CLECA, agricultural users, retailers, schools, industrial users, EDF and the Sierra Club. Directors would be expected to make a major commitment of time to management of the Fund, averaging perhaps two days per week, for which they would be compensated at a rate comparable to those with similar responsibilities in the public and private sectors, amounting to perhaps $35,000 per year per Director, plus expenses. Directors would serve terms of four years, with initial terms staggered to prevent a large turnover in any one year. Vacancies would also be filled by selection from a slate of nominees.

2b. Administrative staff

This proposal minimizes administrative staffing requirements by following current business trends toward outsourcing administrative services to the extent consistent with responsible management of the Fund. The intent of this strategy is to prevent the establishment of a large and entrenched bureaucracy with excessive inertia which is unresponsive to changing societal needs. This goal is further reinforced by limiting the contract between the Administrator and the Commission to a fixed term. We believe that the desire of the Administrator to be reconsidered for future contracts will provide the

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payments for programs which may save little energy. If either bias benefits the administrator's shareholders, the objectivity of the administrator is compromised. By contracting with a nonprofit administrator which is independent of for-profit entities, the Commission can ensure that efficiency programs and related public benefits are accurately assessed.

primary motivation for superior performance, just as it does for other competitive businesses.[9]

Since Directors are responsible for the management of considerable amounts of capital and serve on a part-time basis, they cannot be expected to assume or to be able to fulfill these responsibilities without sufficient staff directly responsible to them. Estimates of staffing requirements are complicated by a variety of factors:

1. it will remain unclear what assets and liabilities should be transferred from the utilities to the Fund until the Commission has completed a thorough audit of existing utility administration;
2. conflict of interest rules specified by the Commission may limit the number of qualified consultants and contractors and increase staffing requirements;
3. initial design and operation of the Fund will require extra staff, depending on the length of lead time available, oversight requirements, program changes desired, degree of cooperation by present utility administrators, etc..

We estimate that California investor-owned utilities now employ approximately 200 administrative staff members. By consolidating duplicative functions, streamlining program design, and improving productivity, we believe that this number could be reduced by at least 50% initially, and perhaps by half again after two years. We recommend that the Commission work closely with prospective Administrators to determine reasonable staffing requirements and budgets.[10]

The executive director would work closely with the Board to assist them in gathering information needed to make decisions and to manage staff to see that these decisions are carried out. Staff would be organized around the administrative service divisions as required; some additional staff will be required for housekeeping functions.

2c The technical advisory committee

In order to provide Directors with the expertise and opinions of stakeholders, we recommend the establishment of a technical advisory committee which would be analogous to existing utility and Commission advisory committees.[11] Participation in advisory committee activities should be as open as possible, and public participation should be encouraged.

3. Administrative budgets

The PGC should initially maintain the level of energy efficiency funding to which California was committed in 1994, prior to reductions caused by impending industry restructuring. A decision whether or not public benefits of energy efficiency programs have changed significantly and warrant major changes in funding should be postponed

[9] In contrast, the utilities and their supporters propose continuing the utility monopoly on administrative services, with "incentives" to promote good performance. This strategy has been extremely expensive in the past, has produced decidedly mixed results, and should not be continued.

[10] See discussion of transition tasks in section 8 below.

[11] We have considered an administrative governance structure similar to that proposed by the FERC for independent system operators, which includes a delicate balance of industry stakeholders. We have rejected this approach and propose utilizing industry expertise by means of the technical advisory committee, in order to minimize conflicts of interest by voting Directors.

until competitive generation markets are fully developed.[12] 1994 funding levels for utility demand side management programs amounted to approximately $450 million. This value is not inconsistent with present expenditures, especially if the present cost of "shared savings" is considered.[13] For purposes of this discussion, we assume that annual contributions to the Fund from the PGC will amount to approximately $450 million, or about 2 mils per kilowatt-hour.

As discussed in section 8, we recommend that the Commission immediately undertake an audit of present utility expenditures, including a comprehensive examination of all administrative costs and staffing functions. While more reliable estimates of Fund administrative costs must await the results of this audit, we believe it is not an unreasonable goal that total administrative budgets, including payments to administrative service contractors, be limited to $50 million, or 11% of PGC energy efficiency funds, with no more than $10 million allocated to the independent Administrator for salaries and overhead costs. We believe that these estimates are substantially lower than costs now being charged by utilities for these services. We also believe that these costs would not increase disproportionately if the Commission should choose to have the Fund administer other PGC funded activities, such as low-income programs, research and development, or even renewable resource incentive programs, depending on the nature of the programs.[14]

4. Utilizing utility expertise

The Commission properly "would like to capture the expertise and knowledge that the utilities have gained in administering DSM programs".[15] The solution is straightforward - let present utility administrators compete for business as administrative service contractors or as providers of energy efficiency products and services in the marketplace. As noted earlier, utilities have obvious conflicts of interest with effective administration of the Public Goods Charge, at least until stranded generation costs have been recovered and utilities divest themselves of all generation assets.

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[12] This position has been endorsed by the signatories of the Memorandum of Understanding on California restructuring, namely Southern California Edison, California Manufacturers Association, California Large Energy Consumers Association, and the Independent Energy Producers. It was also the basis for the funding levels included in AB 1123 which are supported by many parties.

We further propose that changes in the level of the PGC be tied to carbon emissions, as described above, in order to mitigate any changes which might occur prior to major review.

[13] At present, energy and capacity avoided by energy efficiency programs have been considered resources which are purchased by the monopoly utilities for their customers. The shared savings mechanism was intended to replace shareholder earnings which were lost by reducing energy consumption, in order to make demand-side management activities revenue-neutral to utility shareholders. Competitive restructuring makes this paradigm unreasonable, since energy efficiency investments are intended to reduce energy use by all consumers and therefore sales of all suppliers. It would be impossible for the Commission to compensate all shareholders of all generators selling into future California markets; the shared savings mechanism should be discontinued as soon as possible. Ending the utility monopoly on the supply-side requires a symmetrical end to the utility monopoly on the demand-side as well.

[14] See discussion of coordination of energy efficiency with other PGC funded activities in section 7.

[15] D. 95-12-063, page 156.

A number of avenues for future employment are available to the present utility energy efficiency administrators. They would be free to leave the utility and work for the Administrator, either as staff, consultants or as employees of firms engaged as administrative services contractors. Those who have earned a reputation for superior performance with their utility will undoubtedly be in demand.

A second option would be for utility administrative employees to transfer into utility energy services affiliates. Valued utility administrative employees should have skills which would also be of value to the affiliates.

A third option would be for utility administrative staffs to approach management with an offer of an employee buyout of their administrative unit. Once they become independent of the utility and its financial interests, they would be eligible to compete for administrative services contracts with other potential providers.

As a temporary measure, it may be desirable to allow utility administrators to continue administering ongoing programs which they have begun prior to January 1, 1997, so long as utility administrative charges are brought into parity with other contractors'. The Commission's audit of utility assets and liabilities should include an examination of existing utility program commitments, and a determination of who should assume these commitments in the future, on a case by case basis.

The independent administrative structure described here eliminates the potential for self-dealing by any party. Questions of market power remain, however. The Commission's strategic assessment function must include the development of measures for determining when market power exists and how it should be mitigated in the energy efficiency business, as well as for supply-side enterprises.

In addition to utilizing existing expertise, the Commission might also have asked how the performance of utility administrators can be improved and how administrative costs can be minimized. Fortunately, the answer is the same - let utility personnel compete for business in the competitive marketplace.

5. Programs supported by the Fund

The Commission has expressed its preference for "market transformation" activities as opposed to "customer-specific" activities.[16] However, without customers, there is no market, or, as the adage points out, "in business, nothing happens until someone buys something". In this proposal, the Fund would not involve itself in individual transactions between buyers and sellers,[17] so in that sense, the Fund would not engage in customer-specific activities.

5a. Market transformation activities

Unfortunately, "market transformation" is sometimes interpreted as the introduction of new efficient products; the super energy efficient refrigerator program (SEERP) has often been touted as a model. However, markets are complex, and merely

[16] D. 95-12-063, Conclusion of Law 83, "Customer specific energy efficiency projects should not require future funding from ratepayers, but should instead rely on market-driven mechanisms."

[17] The Fund does, however, monitor the performance of products and services supported by the Fund as part of its quality control function. This will necessarily involve some customer-specific measurement and verification activities.

designing and introducing more efficient equipment does not "transform" them. For example, the use of even the most efficient new refrigerator *consumes* energy, it does not *conserve* energy. One must consider the behavior of all market participants in order to determine whether SEERP refrigerators increase or decrease energy use by California's refrigerator stock.[18]

Economists describe market transformation in terms of reduction of "market barriers" which increase transaction costs, especially for smaller customers.[19] Fund activities should be targeted to lower transaction costs for delivery of efficient products and services in the most cost-effective manner. The goal, however, is not merely to create more economically efficient markets, but to increase the market share of energy efficient products and services.[20] Fortunately, these two goals are not in conflict.

We propose that the Fund Administrator consider development of a mechanism which allows buyers of approved efficient products and services to use the value of energy savings to repay over time some or all of the cost of these products. The Administrator's quality control function would assure customers that installation of an approved efficiency measure results in specified energy and monetary savings. The transaction between the customer and the vendor of the measure could include an agreement that some portion of these savings would be transferred automatically from the customer to the vendor by means of the monthly utility billing mechanism.[21] Allowing customers of efficient products to use "shared savings" in energy bills to purchase these products is expected to strengthen markets for these products significantly, especially for small customers.

5b. Evaluation of program cost-effectiveness

Historically, efficient products and services have been thought of as utility demand-side "resources" which are functionally equivalent to supply-side energy and capacity resources. The costs of both types of resources were included in electricity rates, with utility "incentives" to minimize discrimination between the two. This paradigm will be fundamentally altered by the development of competitive generation markets, as noted above. How this paradigm shift affects efficiency program cost-effectiveness tests has received little attention, however.

In competitive markets, cost-effectiveness of efficient products and services and of programs to increase their market share can no longer be determined by comparison with utility generation costs. The Commission's restructuring decision appropriately recognized this fact by taking the cost of these programs out of utility rates and establishing a separate Public Goods Charge. Cost-effectiveness tests for programs supported by the PGC must focus on costs and benefits to *consumers*, not to utilities or other energy providers.

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[18] For example, if a buyer of a SEERP unit resells the old unit into the used market, California's energy use by refrigerators might well go up, not down.

[19] Similar "market barriers" exist on the supply-side and result in higher distribution costs for customers with smaller electric loads.

[20] As noted earlier, until environmental and other externalities are internalized in energy prices, markets will not reflect the value of public goods, regardless of how economically efficient markets may otherwise be.

[21] The Fund's involvement is to establish a credible value for energy savings for efficient products and services which can serve as the basis for commercial transactions. We anticipate that such transactions would be facilitated by the involvement of financial institutions as third parties.

Fund Administrators should begin a review of present cost-effectiveness methodologies as soon as possible. Since existing methodologies were developed exclusively for the present monopoly utility system, the Fund's planning and assessment activities will undoubtedly require significant modifications to criteria currently in use. Governance of the Fund by Directors representing consumers and environmentalists should ensure that new cost-effectiveness tests maximize benefits to consumers paying the PGC, rather than to other market participants.

Ideal rate design for remaining monopoly utility services would ensure that the interests of consumers and suppliers are perfectly aligned. In an imperfect world, rates can shift costs between customer classes and between consumers and suppliers, depending on loads, division of costs between fixed and variable, etc.. Cost effectiveness tests adopted by the Administrator should use whatever rate structure the Commission adopts for customer costs on the supply-side.

6. Equity between customer classes

Cost-effectiveness criteria alone are insufficient for satisfactory allocation of PGC funds, however, since market prices ignore issues of equity between various participants. Energy experts may be able to identify which programs would be most cost-effective, but these experts cannot be relied upon to allocate funds equitably between customer classes. Equity between customer classes is a quintessential policy issue which must be addressed by the Commission. Guidelines for the Administrator should be spelled out clearly in the contract between the Commission and the Administrator and reviewed regularly.

As a general rule, we propose that PGC funds collected from various customer classes should be returned to those customers through programs designed to support cost-effective products and services available to each class. This principle ensures that no customer class pays for private benefits received by another. It does not maximize overall system energy efficiency, however, since energy savings for large consumers may be obtained more cost-effectively than for smaller consumers. There is an unavoidable tension between maximal cost-effectiveness and consumer equity, the resolution of which must remain the Commission's responsibility.

However, the Commission should provide the Administrator with some flexibility in its investment guidelines, even if the Commission adopts the general rule that funds should be allocated to customer classes according to PGC payments. Since market barriers are higher for smaller customers, markets for these customers require more "transformation" than markets for large customers. Smaller customers are also less likely to benefit from direct access to generation markets, and therefore arguably more deserving of support in energy efficiency markets. On the other hand, pollution reductions may be obtained more inexpensively by promoting products and services to large customers. We therefore recommend that the Commission's guidelines specify approximate allocations by customer class, while providing Directors with sufficient flexibility to respond effectively to market conditions.

7. Coordination with other PGC funded activities

In addition to energy efficiency activities, the Commission has also foreseen a need for continued funding for research, development and demonstration activities which

provide public goods to consumers, and recommends that the public goods charge be used to raise funds for that purpose.[22] The Commission has also determined that "[a]fter a transition period, perhaps by Jan 1, 1998, the funds collected through a surcharge for public goods research should be administered by an independent, nonutility, entity."[23] The RD&D working group is currently developing proposals to implement the Commission's decision.

The Commission should consider the desirability of using the Fund's to administer appropriate RD&D activities under a separate contract, in addition to the Fund's energy efficiency activities. If the Fund were to have an RD&D administrative role, a separate RD&D technical advisory should be established to advise the administrative Board. The RD&D contract between the Commission and the Fund should establish appropriate guidelines for the allocation of PGC funds for RD&D activities. Administration of both energy efficiency and RD&D activities by a single entity would ensure maximum coordination and avoid potential conflicts between separate administrators. Depending on the additional work load involved, Board membership might be expanded by two members. RD&D administration by the Fund would avoid duplication of parallel administrative structures; staffing requirements to provide legal, financial and other necessary services would not be expected to increase significantly.

Similar considerations suggest that the Fund might also play a useful role in administration of low income and renewable resource programs. For each program, a separate technical advisory committee comprised of stakeholders and experts should be established. Separate administrative guidelines for each program would be required; separate contracts with the Fund may be preferable.

8. Transition to independent administration of PGC funds

The transition from utility to independent administration of PGC funds will be considerably less complex than the transition to direct access and competitive generation markets. We propose that the independent administrator assume responsibility for administration of these funds on January 1, 1998, simultaneous with commencement of direct access. The key steps necessary to accomplish this goal without disruption of markets appear to be:

- December, 1996 -- Commission identifies desired structure of the independent nonprofit administrative entity and directs staff to begin preparation of an administrative contract, based on the Energy Services Working Group report and comments from interested parties;
- December, 1996 -- Commission begins audit of utility programs and staffing to identify relevant assets and liabilities;
- March, 1997 -- Commission issues RFP for Fund administration;[24]

[22] D. 95-12-063, Conclusions of Law 88 and 90.

[23] D. 95-12-063, page 160.

[24] The schedule proposed here assumes that the Commission chooses the initial independent nonprofit administrator through a competitive solicitation. Before doing so, we recommend that the Commission determine the number of interested and qualified bidders. In the event that only one entity is both sufficiently qualified and interested, the Commission should negotiate the contract directly with that

- June, 1997 -- Commission awards contract to winning independent nonprofit administrator;
- July, 1997 -- Administrator hires key staff and begins design and modification of programs for 1998 and beyond;
- October, 1997 -- Administrator announces programs to be available beginning 1/1/98 and chooses key administrative services contractors
- January, 1998 -- Administrator assumes responsibility for PGC funds

entity, a process which might be completed by April, 1997, thereby lengthening the lead time available to the administrator by several months.

9. Summary

Administration of funds raised through the public goods charge must be truly independent to ensure that no participant in the market, on either the supply- or demand-side, is able to use PGC funds for private gain. PGC funds should be allocated competitively to ensure that all services and programs are procured at the least cost to consumers. The Energy Efficiency Fund of California has been proposed to meet these requirements.

Competitive allocation of PGC funds is also the optimal strategy for utilizing existing expertise in the industry, including experience and knowledge which has been acquired by the utilities. xxxxxxxx

The Commission's decision that the public goods charge should be administered by an independent nonprofit organization like the Energy Efficiency Fund of California can and should be implemented by January 1, 1998.

PGC ADMINISTRATION PROPOSAL: THE CALIFORNIA ENERGY EFFICIENCY AND PUBLIC INTEREST RESEARCH BOARD (CEEPIRB)

SUBMITTED BY CEC STAFF

CONTENTS

PGC ADMINISTRATION PROPOSAL: THE CALIFORNIA ENERGY EFFICIENCY AND PUBLIC INTEREST RESEARCH BOARD (CEEPIRB)

SUBMITTED BY CEC STAFF

I. OVERVIEW

Mission Statement

The primary mission of the California Energy Efficiency and Public Research Board (CEEPIRB) is: ***to achieve long-term societal benefits by engaging in market transforming and RD&D activities not naturally provided by competitive markets, thereby increasing the range and use of energy efficient products and services.***

Basic Strategy

The basic strategy underlying CEEPIRB-directed programs is a focus on sustainable transformation of markets through reductions in market barriers; a dramatic shift from the current focus on influencing individual customer purchase decisions through financial incentives. This approach is consistent with Conclusions of Law 82, 83, and 84 (D 95-12-063, p. 213).

Principles

The CEEPIRB proposal is based on principles, shown in Section II, covering the governing board, administration, program design and the transition. R&D principles will be included when the working group reports are integrated. The principles allow for a range of options for transition and initial administrators.

Transition

Successful market transformation programs will be developed through pilot tests, as subsidy programs are phased out, and market transformation programs are phased in at statewide and local levels. Current utility administration would be subject to an open competition among organizations (e.g.: UDCs, cities, non-profits) that meet qualifications, have capability in place, and can adapt to the shifting program emphasis. Routine reliance on utilities would gradually end.

Governing Board

The CEEPIRB is governed by a strong statewide board that sets policy guidelines for competing local administrators and guides market transformation initiatives and public interest R&D. The board governs expenditures of public funds, and should therefore be a public agency; a likely candidate is a Joint Powers Authority (JPA) comprised of existing energy agencies. Municipal utilities could join a JPA structure prior to any legislation to establish a statewide PGC. The board must be able to control PGC funds within guidelines, in order to have competitive local administration. A strong statewide board and staff provides stability and accountability and fosters uniform statewide policies and guidelines.

Guidelines & Strategic Assessment

The board would be assisted by a strong but small staff with responsibility for developing policy guidelines for local administration, managing audits of administrators, and managing pilot tests of new statewide and local market

	transformation initiatives. Successful programs would be contracted out or "catalyzed" to the best administrative options, so that board staff keeps a strategic focus and avoids entrenchment.
RD&D and Upstream Market Transformation	Public interest research and development and upstream (statewide or nationwide) market transformation programs are more efficiently initiated from a statewide perspective under policy control from the governing board. RD&D functions, which include research on both technologies (generation and end use) and market barriers, will be more completely described during the integration of R&D and EE working group reports. Upstream market transformation initiatives include programs that work with manufacturers, distributors, associations, and other participants to reduce market barriers to energy efficiency, and programs that assist consumers on a statewide basis, such as equipment labeling programs, service provider certifications, and changes in state laws and codes.
Consumer Assistance and Protection	These market transformation activities should be administered at a local level, close to the consumers making energy efficiency decisions, under guidelines from the board. Local administrators would implement new, pilot-tested program concepts developed by strategic assessment. The essence of this function is providing trustworthy information in a friendly, low-transaction cost fashion. One strategy to pilot test is developing independent quality ratings of energy service providers (ESPs) which would be furnished to administrators, and made readily available to consumers. Another is changing bills to make it easier for consumers to make more informed choices about and verify savings from energy efficiency investments.
Provider & Trade Ally Services	These market transformation activities should be administered at a local level, close to the providers that interact with consumers, such as architects, developers, and service contractors. Local administrators would implement new, pilot-tested programs, developed by strategic assessment.
Procurement	Procurement should be handled by qualified local administrators until subsidies are phased out, with the CEEPIRB board standardizing terms to provide a stable and consistent statewide structure for procurement from ESPs. Procurement administrative costs will be limited by the standard guidelines, and should take no more than 5 percent of the funds allocated to procurement. After the transition, procurement through incentives may be combined with other strategies to increase the overall effectiveness of market transformation plans.
Summary of Advantages	The CEEPIRB proposal is consistent with CPUC policy direction by reducing reliance on subsidies and placing policy emphasis on the development of market transformation designs that work. CEEPIRB avoids shocks to and captures expertise of the energy efficiency industry by gradually tapering off existing administration and subsidy programs and shifting to new, pilot-tested administrative structures and activities. CEEPIRB includes a variety of flexible administrative options to fit the specific functions of any market transformation

programs developed. CEEPIRB allows the efficiency forces of competition to operate to the maximum extent reasonable. Finally, CEEPIRB integrates energy efficiency and RD&D public goods program in one board, and sets the stage for municipal utility participation.

II. PRINCIPLES

The CEEPIRB proposal is based on a set of basic principles. These principles are categorized along four important dimensions: 1) governing board and policy setting; 2) administrative structure; 3) program design; and 4) the transition from the current structure. The principles will help to provide initial basic guidance to the CEEPIRB board. They also are flexible enough to allow for a range of transition and initial administrative structure decisions by policy makers, that is, they could be adopted to guide a variety of initial administrative structures.

Governing Board Principles

(1) EE and RD&D PGC funds should be under the policy direction of a single governing board, with its own supporting staff, accountable to the government of California.

(2) Members of the board and its staff should be subject to financial disclosure and conflict of interest rules applicable to government officials.

(3) The board should integrate EE and RD&D market transforming activities to (a) compare across demand and supply side options and (b) coordinate the development and adoption of energy efficiency products.

(4) The board should allocate PGC funds with due regard for equity among customer classes and local areas.

(5) The board should have a small but strong staff that is sufficient to assist in policy direction.

(6) The board should establish procedures to obtain input from outside experts and market participants.

Administrative Principles

(7) Administrative structure and program design should minimize overall transaction costs including: administrative, regulatory, evaluation, marketing, and customers' decision costs.

(8) Competitive procedures should be used for administration and implementation of PGC-funded programs wherever they increase efficiency, flexibility, and/or innovation.

(9) Qualified administrators should satisfy conditions that prevent self dealing, conflicts of interest, and anti-competitive practices.

Program Design Principles

(10) Market transforming activities should aim at increasing the demand and supply of energy efficient products and services by: a) providing consumers with a basis for making intelligent choice, and b) enhancing the viability of reputable energy efficiency businesses.

(11) After the transition, financial incentives should only be used in combination with other market barrier reducing strategies and should be limited to products not yet established in competitive markets rather than used to subsidize proven products.

(12) New programs should aim at reducing market barriers, but because most are likely to involve dramatic shifts in program emphasis, they should be pilot tested before full implementation to transform markets.

(13) Board staff should formulate, manage contracts for, and evaluate pilot studies; and catalyze the implementation of new market transforming initiatives.

(14) The emphasis of measurement should shift from concentration on quantitative estimates of energy savings to include qualitative indicators of market transformation.

Transition Principles

(15) To prevent any gap or abrupt shock in energy efficiency markets, activities directed at reducing market barriers should be phased in while subsidies are gradually phased out over a period of about five years.

(16) To assure a smooth transition, traditional cash rebate/subsidy programs should be administered efficiently through objective, open, continuous, and competitive processes by utility distribution companies (UDCs), the Department of General Services (DGS), or other entities with similar capability in place.

(17) During the transition, the board should direct staff and allow other parties to develop and propose a variety of alternative administrative structures for the entities responsible for implementing activities to reduce market barriers.

(18) Administration of PGC programs should be shifted to the competitive alternatives developed and away from routine reliance on current utility structures over a period of five years, while capturing relevant utility, governmental and private expertise.

III. KEY ISSUES

A. Subsidies vs. Lasting Market Transformation

The CEEPIRB proposal is designed to avoid an uncritical over commitment to existing program designs. It provides a structure, with accompanying policy guidelines, that is conducive to nurturing new market transformation initiatives so that they can challenge, and when proven out, successfully compete with existing program designs. While allowing customer-specific activities, the proposal envisions a phasing down of current rebate programs in favor of new, pilot-tested, designs that use financial incentives only in combination with other market transformation strategies and for products not established in the market.

Most members of the Working Group agreed upon a preliminary working definition stating that market transformation activities should aim at reducing market barriers in a way that creates lasting improvements in market performance (see Chapter 2, Section C). But there is still a significant divergence of opinion over how this definition should be applied. Some parties believe that market transformation is best achieved by continuing to place emphasis on financial incentives and subsidy programs, while improving efficiency and reducing the need for regulatory oversight through standard offers and/or new administrators. These new contracting processes and administrative structures may make the regulatory process easier, but it is not clear that they create lasting market transformations. They also risk more deeply entrenching and thereby perpetuating the programmatic status quo beyond the transition period. The CEEPIRB proposal avoids these risks by establishing a structure conducive to developing and implementing a variety of broader public interest market transformation initiatives, while phasing out subsidies.

CPUC guidance in Conclusion of Law 82, 83, and 84 (D 95-12-0673, p. 213) draws attention to the need to change the programmatic status quo. By doing this, it also provides a valuable impetus for more fully exploiting major advances over the last 20 years in our knowledge about the critical interrelationships among market participants and focus this knowledge on directly reducing market barriers.[1] The CEEPIRB proposal is responsive to CPUC policy direction by setting up a structure that is conducive to moving away from a reliance on subsidies in favor of new initiatives not naturally provided by competitive markets that create lasting improvements in market performance.

B. Accountability and Makeup of the Board

The CEEPIRB proposal calls for first establishing a clear mission and associated guiding policy principles. Accountability for spending PGC funds in accordance with this mission and these principles would be achieved by placing control over funds under direct supervision of a board subject to financial disclosure and conflict of interest rules applicable to government officials. The board could consist of public officials, including representatives from agencies participating in a JPA, and possibly others who represent the public interest. To assure its independence and strengthen its ability to objectively consider alternatives to traditional approaches, the board

[1]See Appendix B for a CEC staff prepared Energy Efficiency Working Group Foundation paper which briefly summarizes some of these advances in Section 2.0.

would have no members, either non-voting or voting, who had a financial interest in how funds are allocated between different programs or different kinds of programs. The proposal also provides sufficient strength and staff for this board to duly exercise oversight control over administration and implementation of PGC funds. While it will avoid heavy handed micro management, the CEEPIRB board will not sacrifice public interest goals due to insufficient knowledge, guidance or enforcement capabilities.

C. Staffing Board Without Creating A New Bureaucracy

The CEEPIRB proposal requires a dedicated board staff. But it achieves this staffing without the costs and risks that might normally be associated with creating a new state bureaucracy. Partly these costs and risks are minimized by keeping the size of the board staff relatively small. Partly they are minimized by keeping these staff focused on strategic functions and out of the administration of on-going programs. Finally, the board, created as a JPA, will be able to borrow staff from the participating agencies, reducing the need hire and pay for new staff. By using this lending arrangement on a voluntary basis the board could readily adapt its staffing to any change in expertise that might accompany evolving changes in program emphasis.

D. Competition and Minimizing Overall Costs

The CEEPIRB proposal maximizes competition in energy efficiency administration and implementation, while minimizing the risks of gaps or shocks in overall PGC fund administration by keeping basic policy determination and control in a stable and public structure. Administrative costs would be minimized by competition, regulatory costs minimized by keeping policy control in public hands at the state level, and marketing and consumer decision costs minimized by developing structures and program designs conducive to market transformation.

E. Integration of Energy Efficiency and RD&D

While they have somewhat different focuses there are important interrelationships between energy efficiency and public interest RD&D activities. For example, RD&D may contribute to market transformation goals by improving understanding of how to reduce market barriers as well as developing improvements in technology. At the same time, reductions in market barriers will tend to lead to easier adoption of new energy efficiency technologies and thereby also help reduce barriers to researching and developing these same technologies. CEEPIRB would facilitate the realization of these and other synergistic potentials by bringing both public good activities under a united structure.

F. Participation of Municipal Utilities

The CEEPIRB proposal is designed to allow for direct involvement of municipal utilities. As public agencies, municipal utilities could become an integral part of the JPA and as such be represented on the board. Municipal utilities that satisfy basic qualifications could also be awarded the role of local administrator in their jurisdictions. The CEEPIRB proposal could also serve as the basic structure for eventual legislation that develops and establishes a statewide structure providing services to all energy consumers.

G. The Role of the UDC

The most intensely disputed issue between members of the Working Group was whether or not UDCs should be allowed to continue as administrators of energy efficiency PGC funds. The CEEPIRB proposal envisions relying on the UDCs for the near-term because they most clearly have the requisite capability in place as we begin the transition. However, UDCs would not have a guaranteed role, but would be subject to competitive alternatives and must satisfy necessary qualifying conditions, as outlined in principle #9. Competitive alternatives are important not only to reduce costs, but to allow continuation of programs when conditions are not met.

Satisfying these qualifying conditions requires establishing a regulatory structure under which the UDCs would have incentives to diligently pursue energy efficiency goals without creating undue market power either with respect to other energy service providers or with respect to energy service consumers. Moreover, to avoid an unwanted additional burden associated with use of PGC funds these conditions should be met without the need for contentious micro-regulatory review and oversight.

Utilities have argued that as a prerequisite to their assuming responsibility for administering PGC funds they will need continuation of some kind of decoupling to assure the recovery of their fixed transmission and distribution costs, as well as additional shareholder incentives. The idea is to decouple utility profits from any loss in sales that might result from increased energy efficiency, as well as to provide some profit from performing efficiency role. However, others have argued against continuation of existing approaches to decoupling, such as a special purpose ERAM and shared savings incentives (as opposed to a simpler fee-for-service), on the grounds that these kinds of mechanisms inevitably lead to costly and contentious micro-regulatory review and oversight. These parties argue that these undesirable regulatory burdens will be eliminated by shifting responsibility for administering PGC funds away from utilities.

While agreeing with some points made on both sides, we believe that there are four additional factors that should be considered. First, incentives should be considered on a comparative basis. That is, in making a choice between administrators, UDC incentives for diligent performance should be compared against corresponding incentives of competing administrative alternatives. For example, we believe that a decision to place exclusive reliance on an exclusive state monopoly is not without its own set of incentive problems.

Second, it is necessary to deal with the question of utility incentives whether or not the UDC administers PGC funds. Even if another entity administers these funds the UDC may act to contribute to or detract from the realization of efficiency goals. For example, the UDC is in a strong position to enrich the information environment by providing customer use patterns, which can reduce the marketing costs of energy service providers, and bill enhancement services, which can make it easier for customers to make informed choices about energy efficiency investments. These functions are crucial to the reduction of market power related to unfair competition between the utility and its rivals and to energy service providers taking advantage of consumer ignorance, and are therefore crucial for realizing long-term market transformation goals. UDCs may act in opposition to PGC activities simply because their profits may be affected, regardless of

administrative structure. In short, the issue of utility incentives can not be cavalierly disposed of by simply ruling UDCs out as PGC administrators.

Third, consideration of the full range of potential utility contributions to or detractions from the realization of energy efficiency goals calls into question the desirability of continuing the existing approach to incentives. Incentives that are focused largely on measurable short term energy savings or their effects on utility profits will not be relevant or useful for activities aimed at sustainable long-term market transformation benefits.

Finally, there is no reason why the question of utility incentives must be resolved by continuing existing approaches. The question may be more readily resolved through means that involve rate design, PBR, and perhaps other aspects of restructuring. Although beyond the scope of this report, these alternative approaches offer the possibility of providing the desired utility incentives without unwanted micro regulatory contentiousness and in a way that focuses utilities on longer market transformation objectives.

The CEEPIRB proposal addresses the role of the UDC from the perspective of how it may best contribute to long-term, market transformation goals. From this perspective, we cannot resolve the question of utility incentives by simply ruling out the UDC as administrator. Moreover, once we resolve the question from this broader perspective, this sets the stage the UDC to perform a PGC administrative role as well as other important energy efficiency functions.

H. Transition

The CPUC says that "after a short transition period, we believe the funds collected for a surcharge for energy efficiency should be competitively allocated by an independent, nonprofit organization, but we would like to capture the expertise and knowledge that the utilities have in administering DSM programs as we begin the transition" (CPUC 12/20, page 156). A smooth transition that captures the relevant utility, governmental, and private expertise is essential to avoid disruptive shocks to the energy efficiency marketplace. The CEEPIRB proposal facilitates a smooth transition by phasing out of subsidies and away from routine reliance on utility administration of programs.

While they are necessary for a smooth transition, placing primary emphasis on continued subsidies risks creating the "boom" before the "bust" that would inevitably occur once subsidies are withdrawn. A short-term transition that continues or even expands the role of subsidies also ***requires specific plans to develop programs designed to directly reduce barriers to effective EE market performance***, and begin phasing in these programs to replace subsidy programs.

These broader market transformation efforts are the basic strategy of CEEPIRB, but the proposal recognizes that these new ideas will require research and pilot-testing before assurance of their long-term success. While significant funds would initially be allocated to continuing customer-specific subsidy programs implemented by ESPs using a standard offer or voucher procedure to minimize contract administration costs, the board would gradually phase PGC funding out of subsidy programs at the same time as market transformation efforts are pilot tested and phased in, over a period of five years.

The CEEPIRB proposal envisions capturing utility expertise by allowing a continued administrative role in the near-term, but subjecting local administration to contestability and competition. The DGS is a competitive alternative to administer subsidy programs, and potentially for other types of programs. Other local administration options, such as cities, non-profits, and ratepayer organizations, would be examined through pilot tests for potential expansion during the transition period. Establishing local flexibility and competition for the administration function takes advantage of the various institutional configurations and circumstances that currently exist in different areas.

Alternatives (not mutually exclusive) for funding and facilitating alternative administration structures include:

1) allocate a portion of administrative PGC money initially to pilot studies testing alternative administration delivery systems. Alternative systems could include local non-profits, cities, DGS, or ESCOs (under state oversight).

2) reallocate unspent and poorly spent utility-administered PGC funds (including the administration costs) to pilot studies and to successfully tested alternative structures.

Initial Options

Changing to a new administrative system and new program designs will be a difficult task, particularly since there are many options being proposed for consideration. Although the entire CEEPIRB structure laid out in this proposal represents good public policy, the proposal is set up to allow policy makers to adopt specific parts in combination with other proposals. For example, the CEEPIRB mission, principles, and board and staff functions could be adopted, with remaining decisions left to the board or to follow paths laid out in other administrative options. The principles and the structure and strength of the board and staff are critical, and should be adopted initially, regardless of the other administrative decisions made. The CPUC would have the option while adopting the CEEPIRB proposal to:

(a) specify an initial mix of administrative structures that might best fit within the broader restructuring context. This might, for example, be a structure that relies on UDCs or one that relies on a statewide entity, or

(b) delegate the resolution of these start-up administrative issues, subject to guiding principles, to the newly established board.

Transition Time line

A recommended Time line and specific initial steps to begin the transition include:

1. The CPUC should adopt the CEEPIRB mission and principles as soon as possible after Comments and Reply Comments on the Working Group report.

2. By March 31, 1997, the CPUC should establish or assist in establishing a CEEPIRB JPA structure, a board, and a staff. Initially, the board should be established within or combined from existing state and perhaps local energy agencies (borrowing staff initially, with no increase in the overall number of employees).

3. By July 1, 1997, the board, operating in accordance with any administrative preselection that the CPUC may choose to make, should publish procedures establishing the qualifications for these competing for local administrative functions and guidelines for those functions. Only those organizations that can prove capability in place to administer the relevant energy efficiency programs should be eligible to compete.

4. Local administration bids, outlining capabilities, costs, and other requirements of the procedures from Step 2 should be received by August 1, 1997.

5. By September 1, 1997, the board should select local administrators based upon the bids submitted. Following, guidelines from Step 2, the selected administrators should prepare programs for operation in 1998.

6. By September 1, 1997, the board should develop and adopt an initial program plan for pilot testing new market transformation initiatives and initial R&D and upstream MT activities.

7. By January 1, 1998, full-scale implementation of the system leading to a gradual phase-out of subsidies and phase-in of market transformation programs begins.

8. By July 1, 1998, the board should prepare a specific road map for phasing out subsidy programs and existing administrative structures and phasing in market transformation programs and new administrative structures over a period of about five years.

9. Every March 31 from 1999 through 2003, the board should assess progress along the road map from Step 7 and revise the road map as required.

IV. FUNCTIONS

The functions described in the CEEPIRB proposal comprise: policy setting; strategic assessment and policy assistance; RD&D and "upstream" market transformation; "downstream" market transformation actions directed at consumer assistance and protection and provider and trade ally services; and procurement functions. The first two of these functions are board and board staff functions, the next one we envision as primarily statewide; while the final three are primarily local. The proposal also envisions strong board control and significant avenues for communication and coordination between functions. The attached figure shows the overall structure.

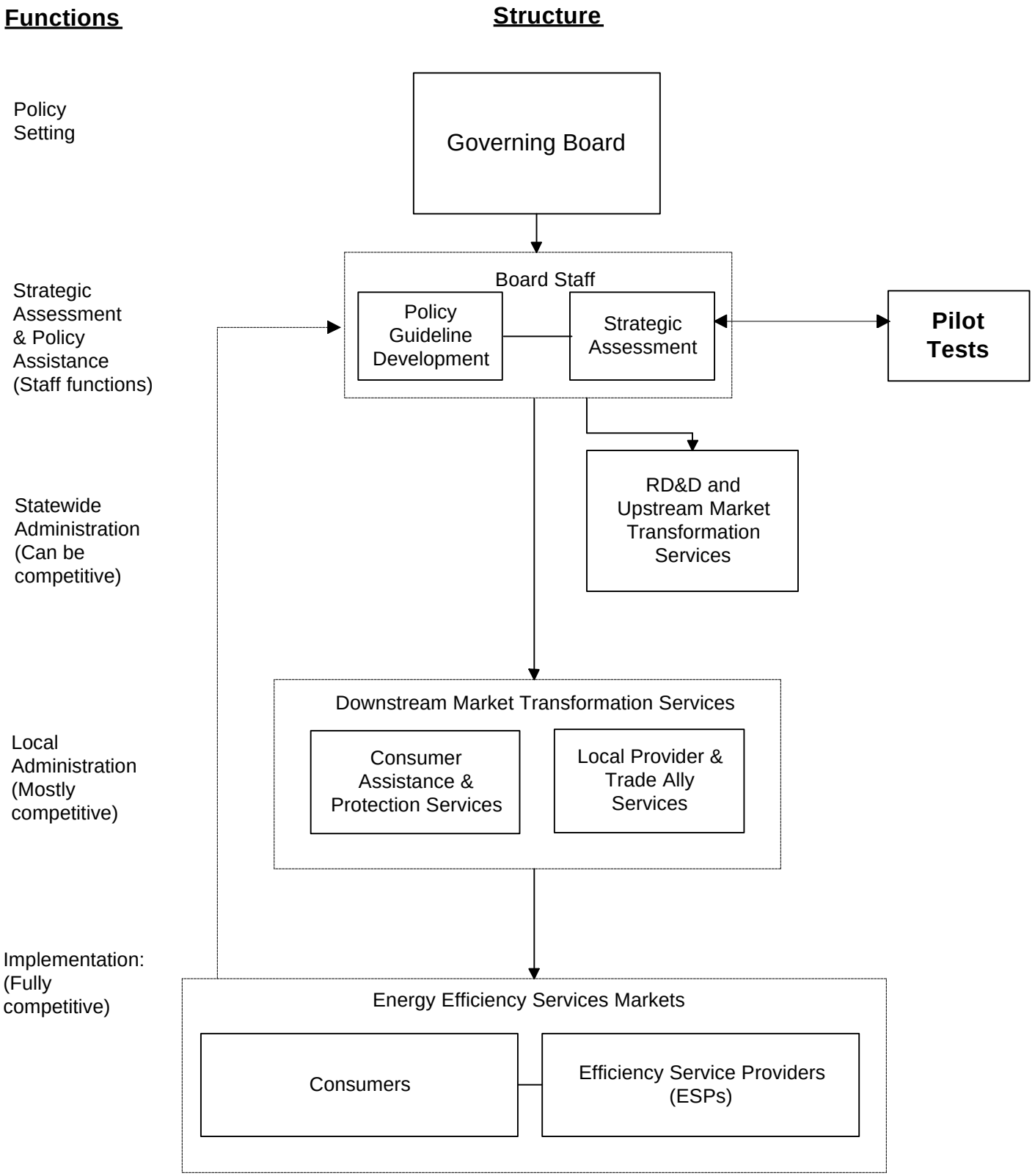
Statewide administration of public interest research and upstream market transformation efforts will: (a) avoid duplication by centralizing and coordinating basic research efforts; (b) take advantage of the larger statewide scale and scope where this is appropriate; and (c) reduce transaction costs of collaborating with related national programs. Examples of programs appropriate for statewide administration include those that deal with national equipment or

appliance manufacturers or national distributors and those attempting to enact changes in state laws or structures.

Local administration of most of the PGC funds will: (a) help assure geographical equity in the allocations, (b) allow local control and close consumer contact so that detailed decisions can be effectively adapted to local circumstances, © provide for flexibility to adopt to changing market conditions under restructuring; and (d) allow for the benefits of competition to be applied to the administrative PGC function without disrupting overall policy guidance at the state level. Examples of programs appropriate for local administration include programs that work with local service and trade industries and those that work closely with consumers.

Administering The Public Goods Charge (PGC)

The California Energy Efficiency and Public Interest Research Board (CEEPIRB)



A. Policy Setting: Who Controls The Funds

The CEEPIRB board of directors would make basic policy and fund allocation decisions governing energy efficiency and RD&D public goods funds in California. The board governs expenditures of public funds, and should therefore be as accountable as a government agency. Board members (3-7 members are envisioned) should be subject to financial disclosure and conflict of interest rules faced by government officials, and board deliberations should be conducted openly, with due attention to public access and rights. The board would provide a stable and accountable statewide structure that fosters uniform statewide policies and guidelines.

Initially, the board should be established within or combined from existing state and perhaps local energy agencies (with no increase in the overall number of employees). This allows a quick start up of the new policy structure, and would likely not require legislation, though would be benefitted from a rapid legislative and executive blessing. Developing the board as a Joint Powers Authority (JPA) that combines the powers of the CPUC and CEC (and perhaps other agencies that deal with EE or RD&D issues) offers several advantages. A JPA would be quick, feasible, and take advantage of existing expertise in state government, while building a structure that focuses solely on PGC fund policy and allocation. Staff for the JPA could be "borrowed" from the agencies that form the structure initially; this staff lending arrangement could continue as needed on a rotating basis. New and more flexible procedures would be designed for the JPA to keep policy guidance accessible to public input under standard legal requirements, while ensuring continued public accountability for public funds.

Municipal and other customer-owned utilities or energy agencies could be accommodated by becoming "partners" in the JPA, allowing a more uniform statewide policy with local control where appropriate. Based on the JPA formed initially, legislation could be easily developed subsequently to strengthen the statewide structure, but still allow local control under state guidelines.

The board would set policy to guide local administration of PGC funded programs and oversee statewide quality inspection, RD&D, and market transformation efforts. The board would serve a required integration role: comparing options for increasing the efficiency of energy use, including supply-side alternatives with public good characteristics; coordinating research and development of promising future options; and ensuring a strong connection between development and adoption of new products and services. Innovation and flexibility would be encouraged by competition among local administrators, and the board would adopt and spread successful programs through revisions to policy guidelines. Programs implemented on a statewide basis would be governed by the board to ensure connection to local efforts where appropriate.

Allocating PGC funding among EE and R&D functions would be guided by standards of proficiency, efficiency, and equity. Programs should be proficient in providing benefits, and do so efficiently and equitably. Proficiency is established by market transformation program design and measurement guidelines, which are discussed later. Efficiency is fostered by minimizing overall costs, including regulatory and market transaction costs as well as administrative costs, of achieving program objectives. Equity implies that funds collected from particular customer

classes and local areas should provide benefits back to those classes and areas in rough proportion to the funds they have contributed.

The board should also establish procedures for receiving regular input from outside experts and market participants. The range of procedures that should be considered include public hearings and workshops, technical advisory committees, and collaborations with other efficiency and research organizations, and regular staff exchange opportunities.

A strong board requires a strong staff. Staff would be responsible for developing consumer protection and procurement guidelines, for strategic assessment and research, and for managing and/or monitoring statewide market transformation programs. The size of the board staff should be kept small to foster flexibility and efficiency, but should be sufficient to provide the required assistance to the board and efficiently perform the critical functions of formulating, managing contracts for, and evaluating pilot studies, and catalyzing implementation of new market transforming activities. We believe that a staff of 20 to 30 professionals is required to support the board and other staff may be desired to direct statewide RD&D and market transformation functions. Staff should face conflict of interest and disclosure rules applicable to government employees and wherever possible be subject to quick and flexible performance incentives and penalties (as in the private sector).

B. Strategic Assessment

The strategic assessment function would focus on assessing energy efficiency market conditions and barriers, developing new market transformation program concepts, pilot-testing promising ideas, and evaluating results. Market transformation is a relatively new concept, and programs based on the idea require pilot testing or equivalent assurance that the programs will work as expected before full-scale implementation. Strategic assessment pilot testing provides a policy level path for developing and committing to new market transformation programs to take the place of current subsidy programs after the transition.

Strategic assessment would assist the board by developing and recommending practical and cost-beneficial proposals for transforming specific energy efficient service and product markets. We believe that it is best for the strategic assessment staff to work directly for the board, so that control over policy direction is clear and straightforward, but alternative structures for the function may also be feasible. We also believe that strategic assessment staff should rarely implement programs themselves, but act to "catalyze," or cause to be implemented elsewhere, successful ideas. This helps keep staff small and preserves strategic focus. Staff would engage in contracts with outside experts and consultants and establish design competitions to increase the flexibility and range of expertise of research and program development.

Examples of programs and designs that strategic assessment staff would develop and pilot tests fall into four general areas: 1) upstream market transformation, 2) consumer assistance and protection, 3) local provider and trade ally assistance, and 4) administrative options for these areas. Implementation of successful ideas would occur through programs spun-off to appropriate organizations, recommendations to the board about statewide and local PGC administrative options and programs, and potentially through direct board implementation.

New designs developed and pilot tested in the strategic assessment function or elsewhere would be administered by staff until viable enough to turn-over to the appropriate implementation organization. Staff would strive to identify or develop implementation options appropriate for each program, and turn program implementation over to the best option. For example, a labeling program might be best implemented through a non-profit council like the National Fenestration Rating Council (NFRC). Implementation options should be chosen through competitive procedures where appropriate.

Strategic Assessment activities should be allocated a relatively small percentage of PGC funds initially, increasing somewhat as pilot tests increase and subsidies decrease. As market transformation program designs are worked out satisfactorily, additional funds will be needed to cover front end costs associated with their implementation.

C. RD&D and Upstream Market Transformation

We believe that some market transformation designs are most efficiently implemented at a statewide rather than local or UDC level to avoid duplication, increase consistency, and reduce transaction costs. Programs intended to work in collaboration with national manufacturers or distributors of efficient products and services benefit from one single point of interaction within the state, rather than three or more points attempting to collaborate under separate oversight proceedings to accomplish the same result. At the same time, local concerns, interests, and ideas can be represented in statewide program efforts through local administrator staff loans and exchanges and collaborative panels within the state.

RD&D functions have not been fully described in this proposal, but we believe that they fall in the same category as upstream market transformation.

Examples of current 'upstream' market transformation proposals include: (a) manufacturer design competitions and distributor/supplier incentive, training and information assistance, (b) improved labeling or independent third party ratings of energy efficiency products, and (c) changes in statewide market legal or regulatory rules (e.g., permitting the use of more efficient "standard-offer" type bids for state facilities).

D. Consumer Assistance and Protection

One clear avenue for transforming energy efficiency markets lies in providing consumers with trustworthy and easily available and understandable information about efficiency products and greater safeguards against opportunism and fraud when dealing with efficiency providers. While particular options for providing friendly information, increasing safeguards and administering these efforts remain to be tested for effectiveness, the need for them is reflected in the CPUC decision and in most proposals for PGC administration. The CEEPIRB proposal envisions this function largely being implemented at a local level, close to the consumers that need the assistance and protection when making their energy efficiency decisions. The essence of this function is helping consumers to make intelligent choices about energy efficiency options.

While it should be implemented locally, the policy guidance and overall control for the consumer assistance and protection function should come from the CEEPIRB board, as with other PGC funded efforts. Board staff would establish and enforce consumer assistance and protection guidelines, and independently assessing the extent to which they are met by local PGC administrators. Strategic assessment staff would pilot test new program and administrative options for assisting and protecting consumers.

Consumer protection and assistance guidelines would target: (a) Improving the "friendliness" of the consumer information environment, including utility bills; (b) providing consumers with an increased assurance of quality services and low cost dispute resolution options; (c) assuring the efficient use of customer billing data while maintaining customer confidentiality rights. The results of state-sponsored independent quality of service inspections would be the basis for objective third party ratings of different local energy service providers made readily available to consumers, local PGC administrators, and the providers themselves.

Local consumer assistance and protection might be implemented through organizations, such as UDCs, local business bureaus, cities that are currently implementing similar functions, or other entities as most appropriate.

E. Provider and Trade Ally Services

Another category of market transforming actions involves training, infrastructure, and other support for local efficiency providers. The CEEPIRB proposal envisions this function largely being implemented at a local level, close to the providers of these local services, as they interact with consumers. The essence of this function is helping to enhance the viability of reputable energy efficiency providers and related trade allies.

While it should be administered locally, the policy guidance and overall control for the provider and trade ally services function should come from the CEEPIRB board, as with other PGC funded efforts. Board staff would establish and enforce provider and trade ally assistance guidelines, and independently assess the extent to which they are met by local PGC administrators. Strategic assessment staff would pilot test new program and administrative options for providing market transformation services to local providers and trade allies.

The local provider and trade ally services function would focus on providing training, information, and other assistance to local architects, developers, service contractors, and other energy efficiency trade allies.

F. Procurement

Under guidelines and standard offer terms approved by the CEEPIRB board, local procurement administrators would contract for energy efficiency (using PGC funds) from ESPs. While subsidies are being phased out, they will be administered using standard terms statewide, and implemented by ESPs. Such a "standard offer" structure is also proposed by other administrative option proponents, and we agree that the structure should serve to minimize administrative costs of the function. In the transition, the procurement function provides stable support for energy

efficiency businesses and directs the attention of consumers to energy efficient products while market transformation programs are developed and implemented. As subsidies are phased out, the procurement function would be phased down and concentrate on general contracts and on incentives that are used in collaboration with other market transformation programs.

Initially, the procurement function would probably receive the highest percentage of PGC funds, with the majority of this money distributed to purchasers of energy efficient products through ESPs. Funds would decrease as subsidies are phased out. Administrative costs of these funds will be limited by standard offer guidelines, and should take no more than 5 percent of the function allocation.

V. ADVANTAGES

The CEEPIRB proposal has the following advantages:

1. Consistency with CPUC Policy Direction. The proposal builds on valuable impetus provided by Conclusions of Law 82, 83, and 84 by establishing a structure, with accompanying guidelines, that is conducive to developing new market transforming initiatives. The structure is set up to phase out subsidy programs over time while phasing in the new initiatives that challenge, and when proven out, successfully compete with the traditional paradigm.

2. Feasibility. CEEPIRB envisions maximum use of existing legal authorities, structures, and capabilities at the start, at both state and local levels, permitting start up by January 1, 1998.

3. Smooth Programmatic Transition. Prudent phasing in of market transforming while phasing out of traditional subsidy approach prevents disruptive subsidy induced boom-bust cycles both now and in the future.

4. Smooth Administrative Transition. Provides for new administrative structures to evolve in a way that relies on competition where appropriate and best adapts to shifting program emphasis, while capturing current utility, government, and private sector energy efficiency expertise.

5. Strong Board. Independent Board is strengthened in its ability to serve public interest by eliminating members with conflict of interest and a dedicated staff that is sufficient for supporting the Board's decisions.

6. Municipal Utilities. Readily accommodates the participation of municipal utilities.

7. Integrates Public Good Research Spending. By placing them in a united structure captures synergistic potential between traditional energy efficiency and RD&D (and perhaps other related) programs.

8. Facilitates Board Staffing. Provides a means for the board to meet its comparatively small staffing needs without creating a new bureaucracy, without additional taxpayer funds, and without fragmenting between different agencies.

9. Competition. The proposal uses competitive forces in the administrative function as well as in implementation, but keeps policy development and board control stable.

10. Flexible Initial Options. By first establishing the basic mission, policy principles, and board and staff functions, policy makers will then have the flexibility to initially select portions of other administrative structures or let the new board determine the remaining structure within guidelines.

The Administration of the Public Goods Charge (PGC) Funds:
The California Energy Efficiency Exchange Proposal
(DRA)

I. Introduction

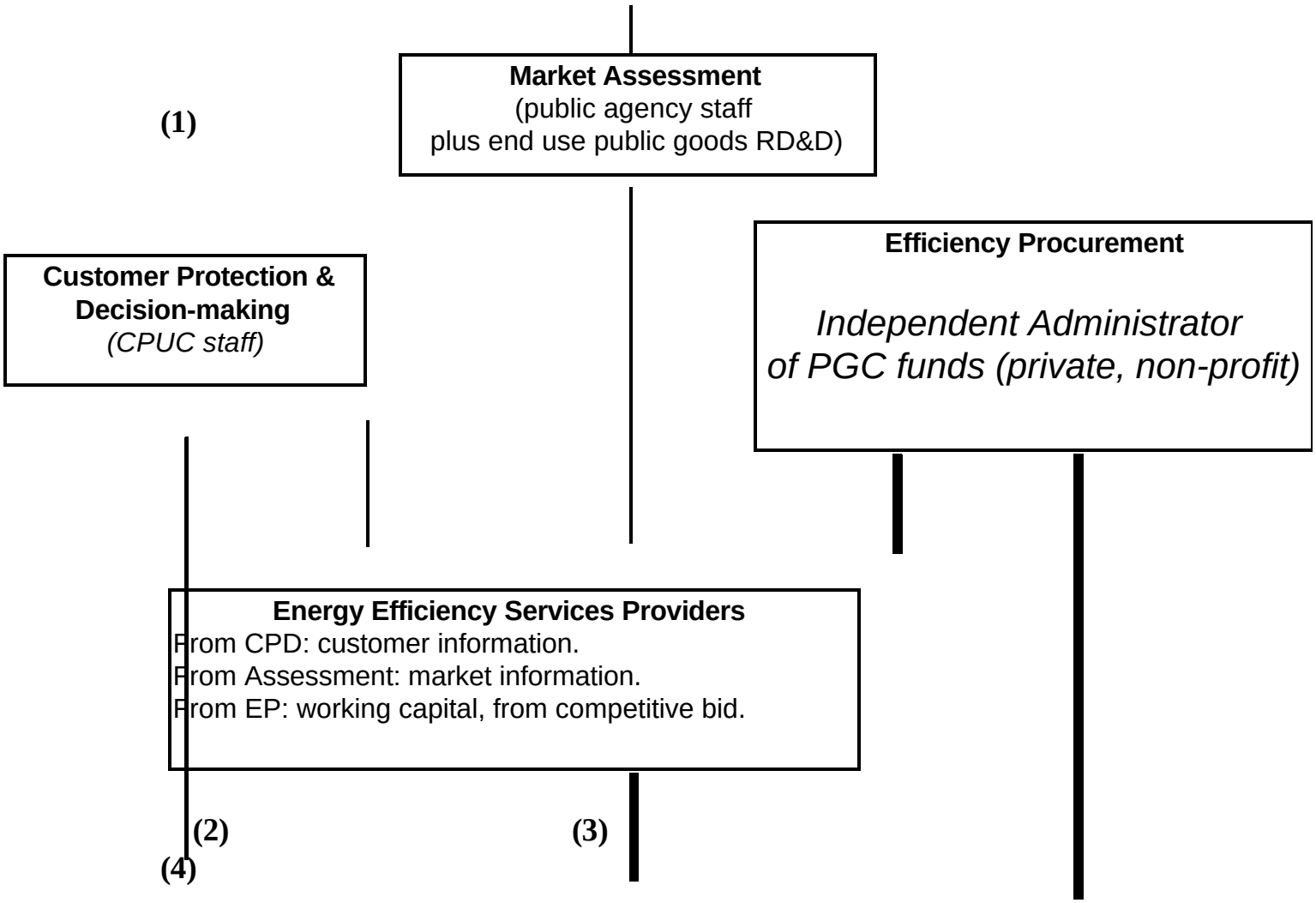
The California Energy Efficiency Exchange (CEEX) represents the institutional framework for the administration of funds collected through the Energy Efficiency Public Goods Surcharge. The CEEX consists of a mixture of public agencies, private/non-profit, and private/for-profit entities. These entities are linked by a set of operating principles that define the roles and responsibilities of each entity in achieving the energy efficiency objectives of the CEEX.

The CEEX is described below in terms of its operating principles in the following areas:

1. Mission Statement and Objectives of the CEEX, including key definitions that establish key features of the CEEX activities;
2. Governing Board;
3. Efficiency Procurement (the independent administrator);
4. Customer Protection and Empowerment; and,
5. Market Assessment.

Figure A-1 shows the flow and exchange of information and financial transactions that collectively produce the delivery of energy efficiency services to customers from PGC funds.

Figure A-1: THE CALIFORNIA ENERGY EFFICIENCY EXCHANGE



(1) Policies and mechanisms regarding Customer Protection proposed by the Governing Board and adopted by CPUC.
(2) Enhanced billing information, through regulation of monopoly provider of obligation to connect services.
(3) Customer specific financial transactions for energy efficiency services.

(4) Other market transformation activities that involve non-customer specific elements of the energy efficiency infrastructure.

To become operational, the functional relationships depicted in Figure A-1 need a set of operation principles. The recommended operating principles are not just "illustrative" of how the CEEX might work. The recommended operating principles should be adopted by the CPUC, and included in any legislation that addresses the issue of the administration of the PGC funds. [1]

II. Mission Statement and Objectives for the CEEX

The CEEX should have a clearly defined mission statement, including a set of definitions of key terms, and objectives that more sharply define the goals of the CEEX. The proponents of the CEEX recommend Commission adoption of the following mission statement for the CEEX:

MISSION STATEMENT: The primary purpose of the California Energy Efficiency Exchange (CEEX) is to promote the wide-spread use by California residents and businesses of cost-beneficial energy efficiency measures and services that are not naturally provided by the market by empowering customers with quality information regarding energy efficiency choices and creating a competitive energy efficiency services industry.

A. "Promote" means to support, in the form of information and/or financial assistance, including the use of funds from the Public Goods Charge (PGC).
B. "Wide-spread use" means the installation of the energy efficiency measures in a preponderance of applicable instances.
C. "Cost-beneficial" means that the benefits, to residents and businesses, individually and collectively, from installing the energy efficiency measure are greater than the

[1] More specifically, the recommended operation principles should eventually replace, or lead to modifications in, the current CPUC regulations that govern utility-sponsored DSM programs. "Current regulations" refer to the DSM Policy Rules, per D. 96-06-016. The "program definitions" described in Chapter 2 are part of these rules; as noted in Chapter 2, it may be necessary to modify some of these program definitions as the CPUC further defines the scope of activities covered by the PGC.

costs of a decision to forego the opportunity to install the energy efficiency measure.

D. "Cost-beneficial" includes, but is not limited to, the costs and benefits of the energy efficiency measure compared to the costs and benefits of electricity and natural gas supplies purchased from the energy distribution company.

E. "Energy efficiency measure" means any material or an energy using appliance or piece of equipment, including demand-side applications of technologies that use a renewable energy source, that will result in reduced energy usage at a comparable level of service when installed on the customer side of the meter.

F. "Demand-side application of technologies that use a renewable energy source" means a technology that is installed on a customer premise and reduces the use of electricity or natural gas by the on-site production of thermal energy or electricity for use at that site using the energy available from a renewable resource.

G. "Empowering customers with quality information regarding energy efficiency choices" means mechanisms that will enhance the ability of customers to make well-informed choices between purchasing energy and reducing energy use.

H. "Creating a competitive energy efficiency services industry" means mechanisms that will establish the conditions for a viable, sustainable, energy efficiency services industry capable of delivering energy efficiency services on a competitive basis without further support from a public agency.

OBJECTIVES: The objectives of the CEEX include the following:

1. To reduce market barriers for ratepayers, and market entry barriers for the providers of energy efficiency services, with the goal of transforming the markets for energy efficiency products and services to the point where the use of ratepayer funds is no longer necessary.
2. To develop and sustain a fully competitive industry of providers of energy efficiency measures and services that is capable of delivering this assistance to ratepayers.
3. To assist ratepayers in making decisions and choices about their energy service by facilitating the selection of cost-beneficial energy efficiency products and services.

In addition to a mission statement and objectives, a CEEX should have well established operating principles that define activities and functions in four areas:

- Policy-setting;
- Efficiency Procurement;
- Customer Protection and Decision-Making; and,
- Market Assessment.

III. Policy-setting for CEEX activities

Currently, the policy setting function for utility DSM programs is performed by the Commissioners at the CPUC (for the investor-owned utilities) or the boards (at municipal utilities). The CEC and the state legislature also influence the policies that govern utility DSM programs, but in a more indirect fashion.

There is a need for the policy-setting function to continue to reside in a public agency. The policy-setting function should be fulfilled by a governing board that includes at least one commissioner from the CPUC.

Since the PGC represents the recovery of costs from utilities that are regulated by the CPUC, it is necessary for the board to have commissioner-level representation on the board in order to establish at least minimal amount of accountability. By having at least one board member from the CPUC, it will also be possible to establish coordination with the many other regulations and regulatory change that may affect, and may be affected by, CEEX activities.

The proponents of the CEEX recommend the following operating principles for the policy-setting functions of the CEEX:

Policy-setting: A Governing Board, consisting of one CPUC Commissioner and other public officials from other existing public agencies, will set policies and rules for the exchange of information and PGC funds between consumers and energy efficiency service providers. The policy-setting functions of the Governing Board include defining the scope of activities and general allocation principles for PGC funds, the designation of the independent administrator of PGC funds, the guidelines for administrative responsibilities and implementation mechanisms of all entities associated with the CEEX, and changes to

the level or structure of the PGC.

a. For transactions involving the use of PGC funds, "implementation mechanisms" refer to and include a competitive procurement process and "policies and rules" refer to and include: the criteria for the eligibility and selection of energy efficiency service providers and other entities to disburse CEEX funds, the criteria for assessing the performance of energy efficiency service providers and other entities selected to disburse CEEX funds; and the criteria for the determination of "cost-beneficial."
b. For information exchanges, "implementation mechanisms" and "policies and rules" refer to and include the protection of customer privacy rights and access of energy efficiency service providers to information regarding customer-specific information and information regarding energy efficiency markets.
c. The Governing Board shall consist of an assigned CPUC commissioner, with additional membership from representatives from existing public agencies, as determined by the CPUC; for decisions affecting the information exchanges based on customer billing data described in (b), the decisions of the Governing Board are treated as recommendations to the full CPUC, and become effective only upon adoption by the full CPUC.
d. The Governing Board will remain in existence until the termination date of PGC funds and the completion of PGC-associated transactions described in (a), and a determination by the CPUC that the objectives of the information exchanges in (b) are sustainable without further policy-direction from the Governing Board.

IV. Efficiency Procurement—the Independent Administrator for Energy Efficiency

The efficiency procurement function—activities that cause customers to reduce energy usage with a comparable level of service--is currently performed by utilities. Operating under the guidance of the Commission, for example, utilities are left with substantial administration and implementation responsibilities to "procure" energy efficiency.

The CEEX will wholly remove the current administrative responsibilities of the utilities, and replace most of them with an Independent Administrator for Energy Efficiency (IAEE). In general, the activities associated with the IAEE involve the financial transactions of the following types:

- a contract between the Governing Board and the Independent Administrator that defines the flow of PGC funds from utilities to the IAEE;
- performance-based contracts between the IAEE and private firms that provide energy efficiency services (hereinafter referred to as ESCOs); [2]
- performance-based contracts between the ESCOs and customers;
- contracts between the IAEE and other entities selected as recipients of PGC funds to reduce non-customer specific market barriers.

Each kind of financial transaction described above contains critical exchanges of information as well. For example, the contract between the IAEE and the Governing Board of the CEEX should either contain guidance to the IAEE about the "implementation mechanisms" that it should employ or refer to the fact that the IAEE will develop those mechanisms under guidelines that will be developed, as well as terms and conditions for the IAEE to report back to the Governing Board on the results of the IAEE activities. Similar, but presumably more detailed, information should attend the contracts established between the IAEE and the ESCOs or other entities that are awarded contracts by the IAEE. And, of course, the contracts between ESCOs and customers will be accompanied with even more details about the effects of the contracts on customers bills.

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[2] The term ESCO is used in this chapter to mean: "A Company engaged in developing , installing and financing comprehensive, performance-based projects, typically of 7-15 years in duration, centered around improving the energy efficiency of facilities owned or operated by customers." Page 12, A Review of the ESCO Industry in the United States , prepared for the World Bank Industry and Energy Department, Richard D. Cudahy and Thomas Dreesan, April, 1996.

All, or almost all, of the funds created by the energy efficiency PSG should be designated to the IAEE through the contract established with the Governing Board, regardless of the size of the PGC. The Commission should adopt the following operating principles for the IAEE:

Independent Administrator for Energy Efficiency: The administration, by a Board-selected non-profit, independent administrator, of Board policies and Board-designated mechanisms and PGC funds for:

a. the management of a list of certified energy efficiency service providers who are eligible to compete for CEEX funds;
b. the competitive procurement of energy efficiency services in the form of customer-specific information services and financial assistance, including pay-for-performance contracts between customers and energy efficiency service providers;
c. other market transformation activities that involve non-customer specific activities;
d. the offering to customers of qualified energy efficiency services by qualified energy service providers to all California customers located in the geographic service territory of a utility that collects energy efficiency PGC funds;

In performing its administrative duties, the independent administrator will:

a. ensure on-going application of the conflict of interest rules for any and all staff and decision-makers, as established in the contract with the Governing Board;
b. periodically solicit advice from a Technical Advisory Committee, comprised of representatives from private sector, for-profit, providers of energy efficiency services and products, consumer groups, and other stakeholders interested in energy efficiency; and,
c. fully coordinate its activities with the activities of other entities of the CEEX.

The recommended operating principles for the IAEE activities of the CEEX are not sufficient to address all key issues and details of how the procurement should occur. The IAEE will need additional guidance, from the Governing Board, including guidance coming from the policy-setting operating principles of the Board associated with

implementation mechanisms for transactions (item a of the recommended policy-setting operating principles of the Governing Board). The recommended operating principles for the Governing Board include resolution of issues that will shape the nature of "competitive procurement" in the following areas:

- Should ESCOs that are owned by a utility be allowed to participate in a IAEE bid, and if so, under what conditions?

- Should the "distribution element" of the utility be allowed to participate in an IAEE bid, and if so under what conditions?

- Should municipal utilities (with or without legislation that extends the PGC to municipals) be allowed to bid, and if so, under what conditions? [3]

- Should "other entities," such as local governments, be allowed to bid, and if so under what conditions?

- Should local governments, aggregators acting on behalf of ratepayers in a local jurisdiction, or municipal utilities be given "special treatment" in accessing PGC funds, and if so, under what conditions?

The operating principles of the CEEX recommended for adoption at this time do not include "answers" to these or numerous other issues associated with the IAEE procurement function and bidding mechanisms. The recommended operating principles would designate the responsibility for making these decisions to the Governing Board. After the CPUC or the Governing Board rules on these more specific administration/implementation issues, the IAEE would then be expected to administer the competitive bidding mechanism(s) in accordance with the policy-direction established by

[3] An example of how this issue might come up in the absence of legislation extending the PGC to municipal utilities would be a bid by a muni to use PGC/IAEE funds to add energy efficiency measures to its programs that reduce natural gas use by customers who receive electricity from the municipal utility, but electricity service from an IOU.

the Board. This key relationship between the Governing Board and the IAEE is central to the issue of the accountability of the IAEE to the public agency that is collecting the revenue from ratepayers of utilities in its jurisdiction.

V. Customer Protection and Decision-Making

Under current regulations, utilities play the dominant role in the area of a variety of efficiency-related, customer protection activities, including the billing function, service-provider certification, and information enhancement to assist customers in making energy efficiency investment decisions.

With the CEEX, most of these utility-controlled activities would be redirected in order to support the conditions for customer capabilities to participate in market transactions with energy efficiency service providers from a position of strength. In general, the activities associated with the CPD involve the exchange of information between:

- the utility (or entity) that collects payment for purchased energy and its customers;
- the customer and companies offering energy services;
- the utility (or entity) that collects payment for energy purchases and companies offering energy services.

Collectively, these information exchanges relate to several elements of the CEEX mission statement (notably items G and H) and all of the CEEX objectives. The activities of the CPD, as proposed, would be undertaken by regulations and mechanisms approved by the Governing Board. As proposed, this function would require no use of PGC funds; personnel for the CPD would be provided at the CPUC (for a CPUC Jurisdictional form of the CEEX) as well as each municipal utility (for the Statewide form of the CEEX).

The proponents of the CEEX recommend the following operational principles for the CPD function of the CEEX:

Customer Protection and Decision-making: The administration, by staff from the CPUC, and implementation of Board policies and Board-designated mechanisms approved by the CPUC, that:

a. maximize access by qualified energy service providers to customer billing data, while maintaining basic customer confidentially rights;
b. disseminate information to customers regarding qualified energy efficiency service providers, using, when possible and appropriate, CPUC-adopted mechanisms regarding certification mechanisms for energy providers; and,
c. empower customers with quality information on their bills, including information that identifies the price per unit of energy used, premise-specific information on usage patterns, and service comparisons.

The operating principles for the CPD activities of the CEEX recommended for adoption at this time are not sufficient to address all key issues and details associated with customer protection. The CPD activities will need to be further developed and additional guidance provided by both the CPUC (as it works out the details of "customer protection" issues associated with energy services more generally) and from the Governing Board of the CEEX.

VI. Market Assessment

The Market Assessment (MA) function of the includes many of the planning, measurement, and evaluation activities currently conducted by the utilities and/or the CEC. The source of funds for these current utility activities is ratepayers, from money authorized as the Measurement, Forecasting, and Reporting Requirements (MFRR) elements of utility DSM budgets.

Although somewhat similar the current planning, measurement and evaluation activities, the MA activities of the CEEX will have a different focus and additional activities related to competitive markets. The MA function involves the exchange of information of the following types:

- data from the utilities and other entities to the MA administrator regarding past, current, and potential energy consumption patterns and energy efficiency activity;

- information from the MA administrator to current or prospective energy efficiency services providers; and,
- information from the MA administrator to the Governing Board about the implications of MA information for the operation principles of the Governing Board, the CPD, and the IAEE.

The MA function and activities will be performed by staff from an existing public agency. The MA staff would prepare public domain reports for distribution to players in the energy efficiency industry and to the Governing Board. The MA function of the CEEX includes a fully integrated and coordinated coverage of the energy efficiency public goods RD&D activities.

The proponents of the CEEX recommend the following operational principles for the CPD function of the CEEX:

Market Assessment: The preparation, by staff at the CEC and/or other public agencies and operating under the general guidance of the CEEX Governing Board, of:

a. recommendations to the Governing Board on the policies and implementation mechanisms governing Customer Protection and Decision-making (CPD) function and the Efficiency Procurement(EP) function;
b. information for the Board, the administrators of the CPD and EP functions and energy efficiency service providers regarding: energy efficiency opportunities that exist in the market; market barriers to the wide-spread acceptance of energy efficiency measures and services; market entry barriers and areas of potential or actual market abuse within the energy efficiency services industry.
c. research reports, prepared under contract between state agencies and non-profit organizations including California colleges and universities, on new and emerging energy efficiency technologies and demand-side applications of renewable resources; these RD&D reports will include recommendations on strategies and PGC funding for the commercialization of these products and services.

In performing these MA activities, MA management will ensure that:

a. corporate proprietary rights and customer confidentiality rights are preserved while maximizing the value and opportunity to collect and analyze data provided by the utilities on market conditions related to energy efficiency products and services;
b. market power assessments are coordinated with public agency assessments of market power in the energy services industry generally;
c. a discrete level of funding, amounting to no more than 5% of the Energy Efficiency PGS, is available to fund activities on end use public goods RD&D, and that these funds and activities are dispensed on a competitive basis or administered by an independent, non-profit, entity, approved by the CEEX Governing Board, that employs competitive procurement practices.

As with the operating principles in other areas, the specific projects and activities of the MA will need to be determined as the CEEX is formed. For example, when (as recommended by all parties in Chapter 2) the Governing Board revises the "scope of activities" for energy efficiency, all parties will be able to contribute to the refinement of these activities to include specific market assessment projects.

The recommended operating principles for the MA function of the CEEX include a specific inclusion—and coordination--of important energy efficiency and renewable public goods RD&D activities. Under current practices and regulations, utility "RD&D" activities have included energy efficiency and renewable energy technologies. These activities, however, have been funded out of entirely different utility budgets, with limited coordination between RD&D "customer-side of-meter" technologies and energy efficiency budgets and programs.

With the CEEX, end-use public goods RD&D would be fully integrated with the full spectrum of market transformation---from research, through demonstration and commercialization of emerging end use technologies, to full implementation with (if necessary) support from PGC funds in mainstream projects administered by the IAEE.

VII. The Statewide Version of the CEEX

Some of the recommended operating principles will be influenced by the threshold question of whether the CEEX operations include or exclude non-investor owned utilities;

this issue is particularly acute for the issue of the composition of the Governing Board and operating principles of policy setting and customer protection.

If the PGC is established for the investor-owned utilities and the municipal utilities, the recommended policy-setting operating principles described above should be modified as follows:

© The Governing Board shall consist of an assigned CPUC commissioner, with additional membership from other state agencies, such as the California Energy Commission, the California Department of Consumer Affairs, and a representative from the municipal utility industry such as the California Municipal Utilities Association; for decisions affecting the transactions and information exchanges described in (a) and (b), the decisions of the Governing Board are treated as binding on the utilities regulated by the CPUC and the Boards of Municipal utilities.

In addition to the modification of certain policy-setting operating principles, the creation of a statewide version of the CEEX should include a modification to the Customer Protection and Decision-making in the following ways:

- add the phrase "and each municipal utility" to operating principle that refers to CPUC staff; and,
- delete the phrase "approved by the CPUC.

VIII. Linkages with other Restructuring Working Groups

As proposed, the operation of the CEEX would (should) be linked to activities being addressed in other Restructuring Working Groups. There are linkages between other Public Purpose Working Groups and with working groups in other areas of restructuring.

The linkages with other Public Purpose Working Groups include:

- RD&D: operating principles in the Market Assessment function of the CEEX;
- Renewables: the operation principles of the CEEX Mission Statement (and definitions, notably items E and F), all aspects of the Independent Administrator (since demand-side applications of renewables would be eligible for support from the IAEE), and the Market Assessment function (since end use public goods RD&D includes demand-side applications of renewables);
- Low Income: no direct connection in terms of CEEX operation principles, but there may be a need for similar operation principles for an Independent Administrator of low income assistance funded through the low income PGC;

Although the linkages are less direct, the issues addressed in other (non public purpose program) restructuring working groups and activities are also connected with the recommended CEEX in the following ways:

- Direct Access: the operating principles of the CEEX CPD function affect, or are affected by, some customer protection and metering issues being addressed in technical committees of the Direct Access group;

- Unbundling/Pricing/Rate Design: the operating principles of the CEEX CPD function affect, or are affected by, some product unbundling issues.

- Market Power: many of the operating principles of the CEEX generally are intended to affect the future market for energy services and the energy efficiency service providers more directly; plus, the operating principle of the SA function (notably item b, which calls for a periodic report on "areas of potential or actual market abuse within the energy efficiency services industry.");

- the Restructuring EIR: the relationship between restructuring and future loads and energy efficiency, since the CEEX is intended to change future loads and energy efficiency activity.

IX. PROCESS ISSUES AND RECOMMENDATIONS FOR CREATING THE CEEX

Changing from the current set of regulations that govern utility-administered energy efficiency programs to the new set of arrangements of the CEEX may be difficult to accomplish. The changes represent a significantly different role for the utilities and the regulations associated with their activities. Authorization for the key regulations that govern utility programs (shareholder incentive mechanisms) is set for review in 1997 and (in the absence of renewal) termination by January 1, 1998.[4] As noted in Chapter 3, the stated Commission "start date" for the PGC is also January 1, 1998.

The information provided in this Working Group report should be sufficient for the CPUC to make a decision to move ahead with the Independent Administrator mechanism. The Commission should adopt the CEEX operating principles (the CPUC Jurisdiction form of the CEEX) in a decision following the Comments and Reply comments on this working group report. The operating principles recommended for adoption—identified and described in the preceding sections of this portion of this Appendix—are repeated in their entirety at the end of this section of this Appendix.

Adoption of the recommended operation principles of the CEEX would be a critical step in the direction of creating a CEEX. Additional steps would also be required, however, if the Commission wishes to have an Independent Administrator in place and functioning by January 1, 1998.

The proponents of the CEEX offer the following recommendations on additional procedures that the CPUC should take in order to meet that goal:

1. Issue a decision, as soon as possible after the Comments and Reply Comments that adopts the recommended CPUC Jurisdiction version of the CEEX, with the clear

[4] Even if program activity ended on December 31, 1997, however, current regulations governing shareholder incentives will require measurement and earnings recovery from 1997 programs until well into the next century.

description that adoption means one last round of comments from the parties will be entertained on the narrow matters of: (a) replacing the current DSM Policy Rules with the operational principles of the CEEX; and (b) refining the adopted operation principles only in so far as it is necessary to make the CEEX work effectively.

2. Issue a final decision on the adopted (and possibly refined) operating principles of the CEEX no later than late spring, 1997; this decision should also contain the necessary language for the Commission to set a schedule for the selection of the IAEE, which should be no later than late summer of 1997, and a start date for operations, which should be January 1, 1998.

In the absence of a timeline similar to the one described above, the Commission will face the undesirable problem of having to entertain proposals by some parties to either extend the current shareholder incentive mechanisms beyond 1997 or extend them on a modified basis.[5]

During this time period (1996-97), the time and resources of the Commission and energy efficiency stakeholders will need to act in four other areas: the coordination of CEEX activities in the area of CPD with other, related consumer protection activities associated with restructuring; the coordination of the operating principles of the CEEX with activities associated with public Goods RD&D and Renewables (per the recommended Mission Statement and operating principles of the MA function) ; ensuring that any legislative action produces a set of operating principles that are consistent with PGC recommendations and the Statewide version of the CEEX.

VII. The Case for the CEEX

The CEEX represents a fundamental shift in how energy efficiency objectives are met in California. Until restructuring, it made sense to rely on the utilities to act as the 'agent" for achieving energy efficiency policy goals. With restructuring, it is necessary to develop fundamentally different regulatory tools that do not rely on the utilities to continue with their near monopoly role in providing energy efficiency services. The CEEX represents the new regulatory framework for doing so.

The centerpiece of the CEEX is the Independent Administrator for Energy Efficiency. The IAEE will replace the utilities as the administrators of ratepayer funds for energy efficiency, soon to be collected through the PGC. By definition, a utility, or any entity affiliated with the utility distribution company, cannot be "independent" if the activities associated with the dispensing of PGC funds affect the sales and/or profits of the utility.

The CEEX will <u>not</u> require the need to continue sales/profits "decoupling" mechanisms such as ERAM. A PBR for the UDC can be based on price or revenue caps, without concern about the perverse effects of utility actions that might influence customer consumption.

Adoption of the CEEX will <u>not</u> require, nor need to be concerned about, the scope or schedule for the functional unbundling aspects of restructuring. If continued utility ownership of generation sustains the inherent tensions or conflicts between utility interests in selling (as opposed to saving) energy, then the utilities will either decide not to

[5] Current regulations call for this review to occur in the 1997 AEAP.

participate in the competitive procurement process of the IAEE or will (should) be precluded from doing so.

The CEEX will not require the need to establish utility shareholder incentive mechanisms as part of or in addition to any PBR mechanism governing rates. If the utility and/or its affiliates chose to participate in a competitive bid administered by the IAEE, and are deemed eligible to do so in a subsequent decision of the Governing Board, the opportunity to profit by providing energy efficiency services will be the same as the opportunity for other private companies participating in the IAEE bidding programs.

The CEEX will not require the need to establish complicated measurement protocols. To some extent, the intractable problems of measuring the impacts of energy efficiency efforts will continue. With the CEEX, however, it will be possible to focus on more aggregate-level assessments and indicators of accomplishments as observed in changes in the market over time, without the need for regulations that tie the results of these studies to profits and incentives. The market-place, in the form of customer-specific, pay-for-performance contracts between customers and ESCOs, will be the primary source of "verifying" performance.

The CEEX will not require the need for any new taxpayer funds for civil servants or public officials. The costs of IAEE personnel will be paid for out of PGC funds and these staff. The public agency staffing requirements for the customer protection and market assessment activities should be met from existing positions at either the CPUC or the CEC. The Governing Board will represent a new "entity," but the activities of the CEEX Governing Board should not be any greater than (and could be less than) current oversight responsibilities for utility energy efficiency program operations.

The operating principles of the CEEX will provide the critical linkages between the administration of PGC funds and the equally important functions of customer protection and market assessment. In both areas, these CEEX functions include important forms of support for the nascent energy efficiency services industry, and will create the conditions for a viable, competitive energy efficiency services industry in the longer run. In addition, the customer protection activities of the CEEX will provide for coordination with customer protection issues associated with restructuring generally, and the market assessment activities will ensure capture and integrate the public goods RD&D activities associated with energy efficiency.

With the CEEX, regulatory oversight for ratepayer funds for energy efficiency will shift away from the current situation of repeated utility filings to authorize funding and/or program design details and then measure, report, verify and authorize incentive payments. The Governing Board will still need to exercise its statutory oversight authority and responsibilities, but the frequency and intensity of involvement in the details of the administration of ratepayer funds—for program implementation and for earnings authorization—will be greatly reduced.

Instead, the CEEX will begin a period of regulation that can focus on making the transition to a fully competitive energy efficiency industry. An industry capable of transforming markets, capable of providing energy efficiency services and products, and capable of providing meaningful customer choice between energy efficiency providers and a choice between purchasing energy at a lower price or purchasing comparable energy service at a lower cost.

THE CALIFORNIA ENERGY EFFICIENCY EXCHANGE: PRINCIPLES FOR OPERATION

I. MISSION STATEMENT: The primary purpose of the California Energy Efficiency Exchange (CEEX) is to promote the wide-spread use by residents and businesses of cost-beneficial energy efficiency measures and services that are not naturally provided by the market by empowering customers with quality information regarding energy efficiency choices and creating a competitive energy efficiency services industry.

A. "Promote" means to support, in the form of information and/or financial assistance, including the use of funds from the Public Goods Charge (PGC).
B. "Wide-spread use" means the installation of the energy efficiency measures in a preponderance of applicable instances.
C. "Cost-beneficial" means that the benefits, to residents and businesses, individually and collectively, from installing the energy efficiency measure are greater than the costs of a decision to forego the opportunity to install the energy efficiency measure.
D. "Cost-beneficial" includes, but is not limited to, the costs and benefits of the energy efficiency measure compared to the costs and benefits of electricity and natural gas supplies purchased from the energy distribution company.
E. "Energy efficiency measure" means any material or an energy using appliance or piece of equipment, including demand-side applications of technologies that use a renewable energy source, that will result in reduced energy usage at a comparable level of service when installed on the customer side of the meter.
F. "Demand-side application of technologies that use a renewable energy source" means a technology that is installed on a customer premise and reduces the use of electricity or natural gas by the on-site production of thermal energy or electricity for use at that site using the energy available from a renewable resource.
G. "Empowering customers with quality information regarding energy efficiency choices" means mechanisms that will enhance the ability of customers to make well-informed choices between purchasing energy and reducing energy use.
H. "Creating a competitive energy efficiency services industry" means mechanisms that will establish the conditions for a viable, sustainable, energy efficiency services industry capable of delivering energy efficiency services on a competitive basis without further support from a public agency.

II. OBJECTIVES: The objectives of the CEEX include the following:

A. To reduce market barriers for ratepayers, and market entry barriers for the providers of energy efficiency services, with the goal of transforming the markets for energy efficiency products and services to the point where the use of ratepayer funds is no longer necessary.
B. To develop and sustain a fully competitive industry of providers of energy efficiency measures and services that is capable of delivering this assistance to ratepayers.
C. To assist ratepayers in making decisions and choices about their energy service by facilitating the selection of cost-beneficial energy efficiency products and services.

III. FUNCTIONS AND RESPONSIBILITIES:

A. Policy-setting: A Governing Board, consisting of one CPUC Commissioner and other public officials from other existing public agencies, will set policies and rules for the exchange of information and PGC funds between consumers and energy efficiency service providers. The policy-setting functions of the Governing Board include defining the scope of activities and general allocation principles for PGC funds, the designation of the independent administrator of PGC funds, the guidelines for administrative responsibilities and implementation mechanisms of all entities associated with the CEEX, and changes to the level or structure of the PGC.

1. For transactions involving the use of PGC funds, "implementation mechanisms" refer to and include a competitive procurement process and "policies and rules" refer to and include: the criteria for the eligibility and selection of energy efficiency service providers and other entities to disburse CEEX funds, the criteria for assessing the performance of energy efficiency service providers and other entities selected to disburse CEEX funds; and the criteria for the determination of "cost-beneficial."
2. For information exchanges, "implementation mechanisms" and "policies and rules" refer to and include the protection of customer privacy rights and access of energy efficiency service providers to information regarding customer-specific information and information regarding energy efficiency markets.
3. The Governing Board shall consist of an assigned CPUC commissioner, with additional membership from representatives from existing public agencies, as determined by the CPUC; for decisions affecting the information exchanges based on customer billing data described in (2), the decisions of the Governing Board are treated as recommendations to the full CPUC, and become effective only upon adoption by the full CPUC.
4. The Governing Board will remain in existence until the termination date of PGC funds and the completion of PGC-associated transactions described in (a), and a determination by the CPUC that the objectives of the information exchanges in (b) are sustainable without further policy-direction from the Governing Board.

B. Independent Administrator for Energy Efficiency:

1. The administration, by a Board-selected non-profit, independent administrator, of Board policies and Board-designated mechanisms and PGC funds for:
   a. the management of a list of certified energy efficiency service providers who are eligible to compete for CEEX funds;
   b. the competitive procurement of energy efficiency services in the form of customer-specific information services and financial assistance, including pay-for-performance contracts between customers and energy efficiency service providers;
   c. other market transformation activities that involve non-customer specific activities;
   d. the offering to customers of qualified energy efficiency services by qualified energy service providers to all California customers located in the geographic service territory of a utility that collects energy efficiency PGC

funds;

2. In performing its administrative duties, the independent administrator will:
   a. ensure on-going application of the conflict of interest rules for any and all staff and decision-makers, as established in the contract with the Governing Board;
   b. periodically solicit advice from a Technical Advisory Committee, comprised of representatives from private sector, for-profit, providers of energy efficiency services and products, consumer groups, and other stakeholders interested in energy efficiency; and,
   c. fully coordinate its activities with the activities of other entities of the CEEX.

C. Customer Protection and Decision-making:

1. The administration, by staff from the CPUC, and implementation of Board policies and Board-designated mechanisms approved by the CPUC, that:
   a. maximize access by qualified energy service providers to customer billing data, while maintaining basic customer confidentially rights;
   b. disseminate information to customers regarding qualified energy efficiency service providers, using, when possible and appropriate, CPUC-adopted mechanisms regarding certification mechanisms for energy providers; and,
   c. empower customers with quality information on their bills, including information that identifies the price per unit of energy used, premise-specific information on usage patterns, and service comparisons.

D. Market Assessment:

1. The preparation, by staff at the CEC and/or other public agencies and operating under the general guidance of the CEEX Governing Board, of:
   a. recommendations to the Governing Board on the policies and implementation mechanisms governing Customer Protection and Decision-making (CPD) function and the Efficiency Procurement(EP) function;
   b. information for the Board, the administrators of the CPD and EP functions and energy efficiency service providers regarding: energy efficiency opportunities that exist in the market; market barriers to the wide-spread acceptance of energy efficiency measures and services; market entry barriers and areas of potential or actual market abuse within the energy efficiency services industry.
   c. research reports, prepared under contract between state agencies and non-profit organizations including California colleges and universities, on new and emerging energy efficiency technologies and demand-side applications of renewable resources; these RD&D reports will include recommendations on strategies and PGC funding for the commercialization of these products and services.

2. In performing these MA activities, MA management will ensure that:
   a. corporate proprietary rights and customer confidentiality rights are preserved while maximizing the value and opportunity to collect and analyze data provided by the utilities on market conditions related to energy efficiency products and services;
   b. market power assessments are coordinated with public agency assessments of market power in the energy services industry generally;
   c. a discrete amount of funding, amounting to no more than 5% of the Energy Efficiency PGS, is available to fund activities on end use public goods RD&D, and that these funds and activities are either dispensed on a competitive basis or administered by an independent, non-profit, entity, approved by the CEEX Governing Board, that employs competitive procurement practices.

RATEPAYER RESPONSIBLE BOARDS:

A MODEL FOR REGULATED ENERGY EFFICIENCY PROGRAMS
IN A RESTRUCTURED ELECTRIC SERVICES INDUSTRY

ENERGY EFFICIENCY FOR RATEPAYERS GOVERNED BY A

CALIFORNIA PUBLIC ENERGY RESOURCES BOARD

Program Proposal to the
California Public Utilities Commission
and its
Energy Services Working Group

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CONTENTS

ACRONYMS LIST

BEUA	Building Energy Utilization Archive
BILLCO	Billing Company
BIRS	Building Information Reports System
CBO	Community Based Organization
CEC	California Energy Commission
CEEE	California Energy Efficiency Exchange
CPERB	California Public Energy Resources Board
CPUC	California Public Utilities Commission
DEB	Director-Elected Board
DGS	California Department of General Services
DISTCO	Distribution Company
DSM	Demand Side Management
EE	Energy Efficiency
EEP	Energy Efficiency Provider
ES	Energy Services
ESCO	Energy Services Company
ESP	Energy Services Provider
GENCO	Generation Company
GIS	Geographic Information System
IA	Independent Administrator
IOU	Investor-Owned Utility
IRP	Integrated Resources Planning
JPA	Joint Powers Authority
LDC	Local Distribution Company
LMD	Local Marketing District
M&E	Measurement & Evaluation
MIS	Management Information Systems
NIT	Neutral Information Transactor
OES	California Office of Emergency Services
OIT	California Office of Information Technology
PEUA	Process Energy Utilization Archive
PGC	Public Goods Charge
RDC	Regional Distribution Company
REB	Ratepayer-Elected Board
ROO	Regulatory Oversight Office
RRB	Ratepayer Responsible Boards
SBSC	California State Building Standards Commission
TRANCO	Transmission Company
UBEC	Utility Building Energy Code
UDC	Utility Distribution Company
WIRECO	Wires Company

Place for Figure 1

FIGURE 1

RATEPAYER RESPONSIBLE BOARDS

STAGE I: JANUARY 1, 1997 - FEB 29, 2000

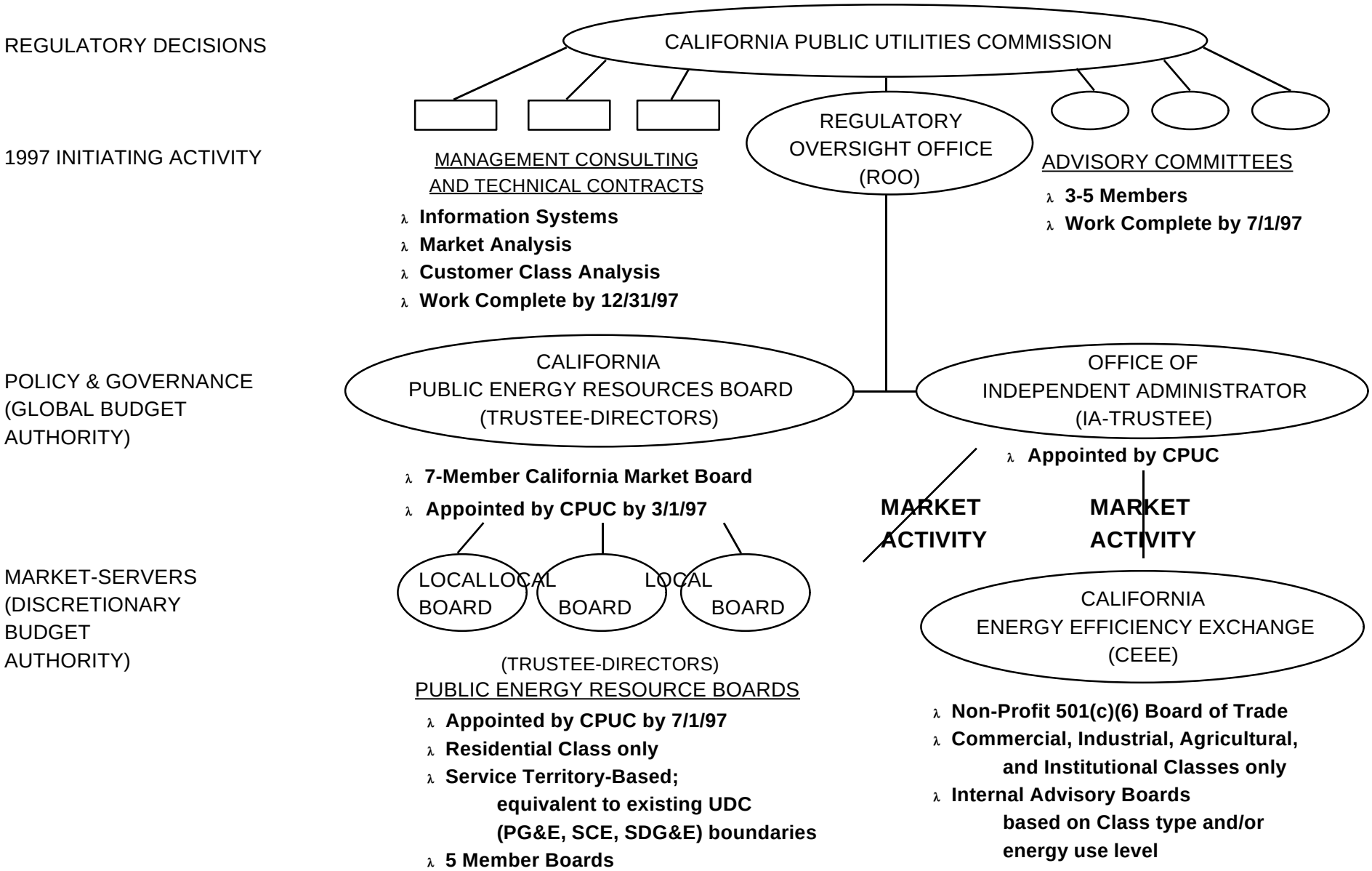
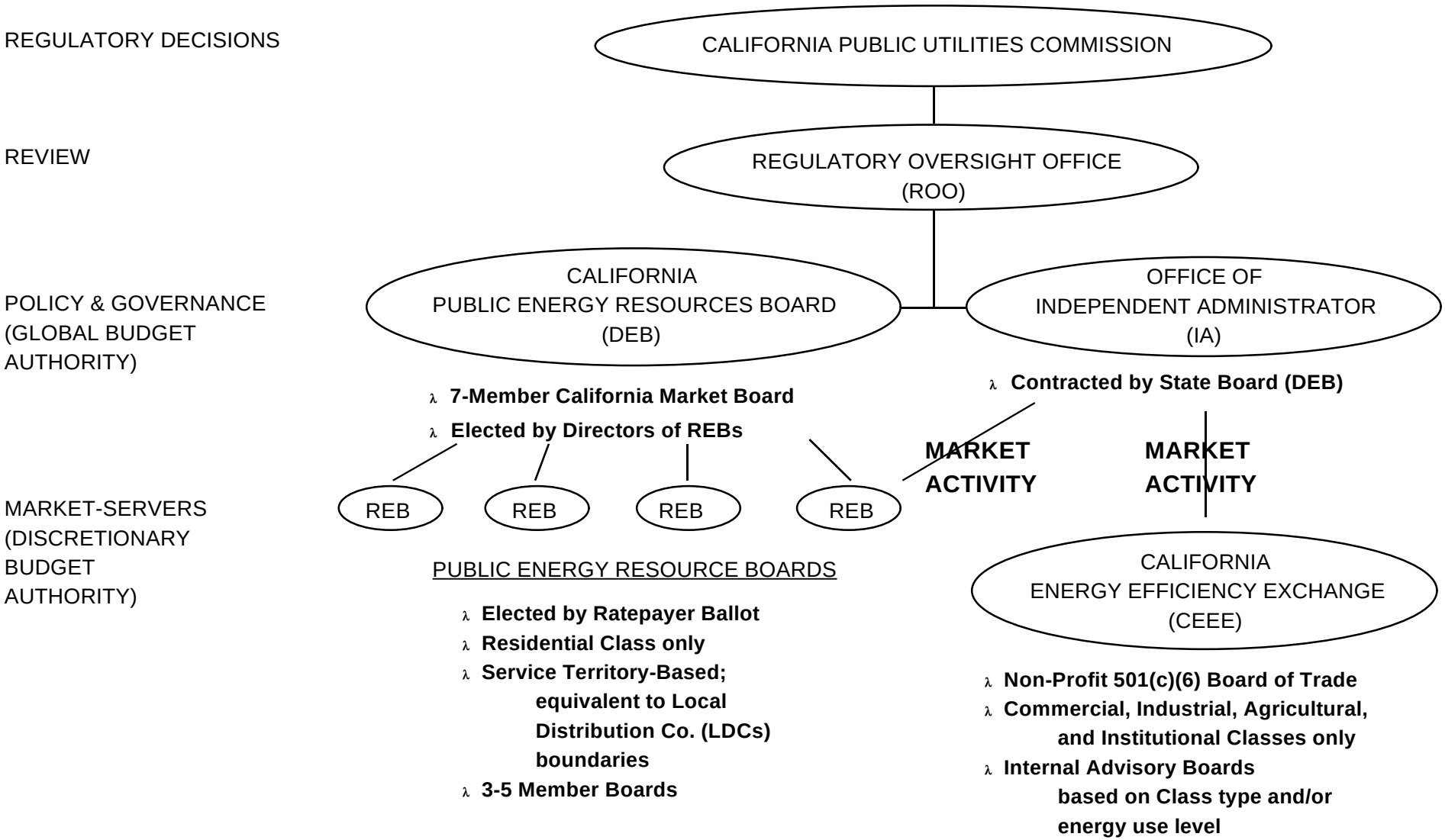


FIGURE 2

RATEPAYER RESPONSIBLE BOARDS

STAGE II: MARCH 1, 2000 -



Place holder for Figure 2

Executive Summary

RATEPAYER RESPONSIBLE BOARDS:
THE CALIFORNIA PUBLIC ENERGY RESOURCES BOARD (CPERB)

The Independent Administrator (IA): The CPUC's Policy Decision calling for an Independent Administrator of Demand-Side Management (DSM)/Energy Efficiency (EE) program funding did not distinguish between policy and administrative functions. The complexities of EE program governance, design and implementation, require separation of powers and functions. Ratepayer Responsible Boards (RRBs) is a framework for EE programming that avoids overweening regulatory control, in the spirit of devolving electric services to market forces. The CPUC will maintain oversight on key aspects, but the goal of a restructured EE program should be to minimize CPUC responsibilities for EE market development.

The IA will be relatively policy-neutral, being instead a transaction-execution office initially appointed as a Trustee-IA by the CPUC, and later contracted by the CPERB. The IA will receipt all surcharge funds from utilities, manage all associated financial accounts including CPERB and Local Board internal accounts, and supervise all computer systems. The IA will have a Contracts Office to support the RRBs in drawing technical forms and contracts. The IA will efficiently execute all financial disbursements per program requirements, with minimal policy interpretation.

Governance. The CPUC will initiate a reformed EE market program, defining how customer classes are represented and served, and setting budget targets and equity formulas for the surcharge. However, the RRBs will control program design and implementation of the new EE "franchise", including ownership and control of assets by Local Boards. While program authority will be bound up in the two levels of elected Boards, a Regulatory Oversight Office (ROO) will provide consultation as well as exercise specific CPUC oversight authority. The ROO will communicate with municipal utilities to coordinate the CPUC EE policies. Such coordination by means of MOUs will create a unified California EE market.

Initially, the CPUC will appoint Trustee-Directors for Local Boards during Stage I. In Stage II the Local Boards will be elected by ratepayers with a simple ballot method. Election campaign conduct will be governed by bylaws, internal Board policies and rulemaking as needed. Initially, Local Board Districts will conform to existing UDC boundaries. Localized Districts will evolve as the industry restructures, with a petition process to the CPUC providing the due process mechanism. A conservative evolutionary path utilizing the ROO to study boundary petitions is preferable.

The Directors selected at the UDC/LDC level will in turn elect the seven state CPERB Directors, comprising a "superboard", i.e. Director-Elected Board (DEB) in Stage II. The CPUC will initiate the CPERB by appointing Trustee-Directors in 1997. The CPERB will develop unified EE program policy, but be accountable to Local Boards and local market realities. The CPERB will accept technical standards and monitor technological trends in consultation with the ROO. The CPERB will contract for the operator(s) of the IA Office in Stage II. Subject to CPERB approval, the IA procures all information systems and financial services. The California DGS could function as a single centralized IA during Stage I on an appointive Trustee basis. If this occurs, the DGS' orientation should be to obtain vendor contracts with financial

intermediaries, claims-processing organizations, and technical support for the RRBS, such that DGS exits program administration responsibilities at Stage II. The CPERB will have dominant program design authority, but Local Boards will possess substantial discretion, including authority to prioritize programs and exercise budget shifts, initiate pilots, and incentivize managers, Facilitators, EEPs, and ESPs.

The ROO will carry out review functions that are best contained in a specialized CPUC office. Because of initial program change, the ROO must be pro-active on many issues, but it is essential the CPUC clearly define the ROO functions in its Decisions, to avoid confusion of its functions with the RRBS. ROO functions will include managing transfer of certain information assets from UDCs, for use by emerging ES industry segments. The ROO will be the intervening CPUC agent in any disputes between the CPERB, the IA, and UDCs. The ROO will act as an Inspector General as the CPUC deems necessary, establishing reporting standards and procedures, and reviewing audits of the CPERB, Local Boards and IA. The ROO will conduct REB boundary studies and supervise REB and CPERB elections. The ROO will participate in MOUs with other State agencies, municipal utilities, IOUs and local jurisdictions.

The California Energy Efficiency Exchange (CEEE). The RRB Proposal proposes that different customer classes have different EE program participation mechanisms. Local Boards and the CPERB will be oriented to residential interests. A CEEE will be the intermediary for CIAI classes. It will be more private in nature than the REBs and CPERB. The CEEE will intensively pursue information-based and market-based methods of transacting EE goods and services.

Accountability. The RRB structure provides the checks, balances and separation of functions needed for a complex program. Customer-based Boards possess legitimacy that will put to rest the current conflicts over DSM/EE programs. Resiliency of policy formation is inherent to a layered Board design, which will be more responsive to California's large diverse market. Conflicts-of-interest of Board directors can be managed as stringently as the CPUC deems reasonable. The ROO addresses the basic need for accountability.

Feasibility and Transition Issues. Retaining existing IOU boundaries for startup of Local Boards simplifies the transition. The corporate form of RRBs promotes efficient management. Quality of Boards will depend on compensation standards and method of executive search. RRB directors should be full time working directors. The RRB model is operationally compatible with the existing municipal utility industry. Establishing election machinery is not an unreasonable obstacle. The CPUC should appoint Trustee-Directors to accomplish incorporations, with subsequent election provisions provided for in corporate bylaws. A Stage I and Stage II process is set forth for phasing organization. The CPUC should designate key Advisory Committees and award necessary consulting contracts early in 1997 to enable the new Boards to be operating by July 1, 1997. The issue of political will is central to issues of feasibility. The CPUC must act decisively for a new basis for the EE/ES industry to roll out. Existing EE "infrastructure" currently associated with utility supervision will move with the CPUC's decision. Some utility-supervised programs in the CIAI classes can be integrated into the CEEE. Limited funding can be considered for a one-year phaseout period for some utility-supervised ESCO contracts, but the shift to a new EE market structure should be underway by January 1, 1998.

Introduction

It is helpful to understand certain assumptions when reviewing proposals for how electric/gas surcharge funds are to be disbursed. The assumptions of Ratepayer Responsible Boards (RRBs), are:

1) While the surcharge is a regulatory creation, it is not a tax unless the legislature ordains it.

2) The surcharge has two primary purposes, related but very different in nature: to mitigate environmental impacts, and to foster the implementation of EE measures and practices. Thus, there is a "public good" associated with EE goods and services delivered on a market-oriented basis.

3) While it is the intention of the Commission, for equity purposes, to minimize the flow of surcharge funds to "customer-specific" activities, customer-specific benefit is an inevitable result of many EE activities, and it is not possible to achieve even a proximate division between customer-specific and public-benefit types of activities.

   Inequitable diversions to specific customers can of course be monitored and minimized; this is a balancing process involving judgment on program design.

4) The previous three assumptions support the position that the surcharge is effectively establishing a new defined regulatory franchise of an industry segment of services: Energy Efficiency and related Energy Services (EE for purposes of this discussion). The Commission's decision to separate this industry segment for program treatment is wise.

5) The intention in funding EE goods and services with a surcharge is to fund activities that nurture, leverage, catalyze, expand and facilitate the market in EE goods and services. The surcharge will not represent a large dollar volume of the EE market. Nonetheless, it is useful to view this program area as a franchise analogous to that possessed by entities on the supply-side, even though the franchise may be very nonexclusive in nature.

6) The need for environmental impact mitigations will not be substantially lessened in the near term of 5-10 years.

7) Programmatic stimulus of EE will not be replaced by pure private market decisions within the near term. In fact, the intractability of some market barriers, e.g. the basis on which first cost decisions are made as to the design and construction of buildings, is so great, that Market Transformation efforts in such areas will justify program efforts for some time. Establishing a common, standard, accessible at low cost information system for the EE and ES markets is also deserving of ongoing ratepayer support.

   These assumptions underlie the degree of organizational commitment and elaboration inherent to the RRB Proposal. The assumptions, in summary, are: 1) provision of services to ratepayers with a corresponding public benefit; 2) a long-term program commitment to EE

market segment development; 3) a minimum of regulatory involvement in market operations; the regulatory role should be one of overseeing EE market development by private, or quasi-public vehicles, rather than an operational role directly associated with designing and providing services.

Mission

The goals of the RRB Proposal are:

1) Firmly establish, identify, and support market-based firms not controlled or supervised by UDCs, that provide Energy Efficiency goods and services.

   It is essential that such Energy Efficiency Providers (EEPs) be capable of interacting directly with market consumers, with the need for intermediaries minimized.

2) Emphasize market-oriented and consumer-based approaches to the development of EE markets, and develop a capacity to identify and reduce market barriers to EE measures identified as cost-effective and appropriate. This emphasis and this approach is predicated on a program structure that is accountable to its constituency and its customers, i.e. ratepayers. A fundamental tenet is that the most important linkages are between EEPs and ratepayers. While regulatory oversight will be in place to prevent program abuse and failure, regulators are neither helmsmen nor navigators in this Proposal. Accordingly, their power is sharply limited by constituting the governing Board on a ratepayer basis.

3) Build and maintain a state-of-the-art information architecture of California's built environment, such that EE markets are highly accessible by the most appropriate level of service at the most cost-effective determination. Such an information architecture will dramatically lower transaction costs, greatly elevate service and disclosure accuracy, and provide the necessary basis on which new generations of energy service technologies can enter a unified California marketplace. The benefit potential of such an information architecture is undeniable. Any potential for indiscretion and abuse of such information power further supports the Proposal's emphasis on private market delivery vehicles, and an arms length relationship to regulators.

4) Provide a program basis through which other resource efficiency programs can function or ally with. Energy efficiency is obtainable through more, or less complex, planning and analysis of input-outputs. While ratepayer money should not willy-nilly subsidize indirectly related activities, the program vision should accommodate alliances. There is always the potential for shared costing, and joint venturing of programs, and associated program revenues.

Surcharge Policy Discussion: Tax vs. Charge-on-Rates

The RRB Proposal is sound irrespective of whether the surcharge is defined as a charge-on-rates or a tax. That is because its linkage to ratepayers is direct, and derives legitimacy thereby. This is not so with all proposals, particularly those that propose direct intervention by state agencies, i.e. "statist" proposals. Statist proposals must rely on the definition of the surcharge as a tax, or the rationale for their level of involvement in designing programs and managing outcomes crumbles. As explained in the Introduction discussing assumptions, the surcharge has a dual nature of providing public goods (environmental impact mitigation), but also fostering and provisioning a class of EE goods and services. The statist proposals presume the public - benefit characteristics of the charge give right to a public agency takeover of market functions. They do not. For the CPUC to endorse such an approach would be an overreach, and a self-defeating one at that. Having stated a preference for maximizing the positive dynamics of decisions guided primarily by market-based forces, it would be odd for the Commission to make a wholesale exception for the EE market segment. Moreover, the blatant usurping of market functions implicit to statist proposals should require statutory approval and must, prior to such a legislative act, have a well thoughtout and defensible finding by the Commission that such public agency intervention is called for. The RRB proposal declares this level of regulatory intervention is not warranted.

It is further in the interest of EE program goals that the surcharge not obtain definition as a tax, because to do so will invite future raids on such a revenue for non-program goals.

The Role of Trustee-Directors

Establishing the machinery whereby ratepayers could participate in the selection of the management of Public Goods Charge is no small task. But neither is it so daunting as some might suggest. It would be a historic step for the Commission to take, with many implications, some quite profound. The importance of moving forward with an ambitious industry restructuring schedule that calls for a shift of EE program administration by January 1, 1998 is another reason for deferring the full implementation of ratepayer participation through director elections until stage II. The principle can be established at the outset, however, and then guide organization evolution. Additionally, the possibility of a role for local governmental jurisdictions to assume certain local EE program governance authority may provide an avenue that obviates the need for direct ratepayer ballots in those cases. It must be emphasized however, that the RRB proposal is not simply a proposal for devolving program functions to local jurisdictions -- that is an avenue that should be left open, particularly for jurisdictions with developed public utility-delivery infrastructure and management resources.

Accepting that direct ratepayer balloting could be deferred for a period of three years, the question poses itself, "How do we get started?". The RRB Proposal assumes the Commission's authority extends to taking special actions, provided it justifies them. Many special actions will be needed to accomplish restructuring. In this case, the Commission should fully embrace the instrument

of Trusteeships, as it initiates a new market structure for Energy Efficiency. Where new Governing Boards must be created, it is wholly justified for the Commission to kickstart the process by naming Trustee-Directors to undertake program initiation. These Trustees would have a limited tenure. Their duties would be to ratepayers. While they would be accountable to the Commission's ROO, the Trustees would not be employed by the Commission and they would not be serving at the Commission's pleasure. Important implications flow from these distinctions, especially those having to do with power and authority. Public authority is not by its nature suited to the subtle discriminations of market activities. It can be arbitrary, self-serving, and unresponsive to markets. In general, public authority requires powerful justification, codified restraints, and legitimate basis. A statist role for an EE program does not meet these tests. Trustees on the other hand, are accountable to their beneficiaries and to themselves as fiduciaries. If challenged or tested, the stakes are high, the line of responsibility direct. As proposed with RRBs, they are responsible to ratepayers, while still subject to considerable regulatory oversight. This arrangement is the best of both worlds and a most suitable interim solution to establishing EE program governance.

ORGANIZATIONAL ROLES

CPUC

The Commission should make every effort to minimize its role in market operations, except for enforcing broad principles, and drawing broad market structure architecture. With respect to EE programs, it can minimize its management of details through the following approaches:

1) Designate a Regulatory Oversight Office (ROO) and clearly set forth its functions and the limits of its authorities in relation to all other entities undertaking PGC-funded EE program roles. The ROO should not have a wide latitude to make/interpret policy. Definitive Commission policy Decisions and reliance on market principles should minimize ROO involvement in market operations. The operating principle should be with respect to ROO authorities, "When in doubt about whether it has authority to intervene, it should not, except through a formal proceeding." The ROO should not be the last word on how to design programs. It should be there to prevent program abuses.

2) The Commission should develop a definitive and sophisticated set of mathematical functions to define PGC budgetary requirements for the IA and the ROO, as well as the Boards. These mathematical functions should be clear and fixed, but allow for flexibility by means of budget adjustments applied to carryover periods (i.e.year-to-year). Having established the broad global budgetary benchmarks for purposes of public policy and equitable treatment, the Commission and its ROO should assiduously avoid going farther. The mathematical approach is powerful, and should be sufficient exercise of primary program design guidelining.

3) PGC funds should be available to the recognized market-servers through the medium of the IA Office on as efficient a basis as all parties can jointly conceive.

4) The budget doctrine of "use it or lose it" should not be operative. A doctrine of judicious use of funds should. Unspent funds should be held in reserve until the RRBs and CPUC can act for wise reprogramming.

5) The CPUC should require extensive descriptions of program offerings by the recognized entities, particularly ones that are wholly private in nature, such as the CEEE. The Commission should take formal actions to accept such program offerings. Having accepted them, it should refrain from involvement, both at the Commission as well as at the staff level. Scrutiny should be on program performance, and creating a framework where other parties can make competitive program offerings. Through performance assessment, the Boards will be incentivized.

6) The Commission's focus on aiding EE programs should be not so much on budgetary questions, (once the mathematical functions are resolved) as it should focus on industry structure, and on the rules necessary to assure the various industry segments fair access to information assets currently held by the UDCs. In addition, there are other issues of information disclosure and coordination with state agencies on new EE program structure that deserve Commission review.

The Regulatory Oversight Office (ROO)

A Regulatory Oversight Office (ROO) that specializes in EE program review should be established at the CPUC. A ROO can perform key oversight roles but should remain limited to traditional government roles. The ROO should not be embedded in program design of market operations. Actual choices in market operations should be embedded within the domains of the Local Boards and the CPERB, and individual consumers. A cooperative relationship should prevail between the ROO and the CPERB, and the two bodies should consult closely to maximize EE program effectiveness. The CPUC will remain the arbiter of any areas of contested authority.

ROO functions:

- Review all PGC equity formulations proposed by the CPERB and other parties, for decisioning by the CPUC;
- Receive REB/LDC boundary petitions and make recommendations to CPUC in this respect;
- Perform role of Neutral Information Transactor (NIT), receiving data from UDC/DISTCO departments, and manage exchange with other electric industry segments including the EE and ES segments;
- Consult with CPERB on qualification and registration requirements for EEPs and ESPs, and Facilitators;
- "Inspector General" functions for all elected boards involved with PGC program funds:
  - -- review Measurement and Evaluation standards and verification practices;
  - -- review audits of financial and management performance;
  - -- publish or cause to be published annual reports of audits;
  - -- monitor anti-corruption and conflict-of-interest measures;
  - -- monitor budgets to assure conformance with CPUC targets and requirements;

The Independent Administrator (IA)

The IA's policy interpretation function should be as minimal as practical. The IA will maintain and operate information systems specified by the CPERB. The IA is the primary administrative interface between the RRBs and UDCs for data exchange purposes. The IA will transact revenue receipting from utilities, and clear all payments meeting RRB criteria. In Stage II, the IA operations should be conducted by at least two private firms with extensive experience in funds management and claims processing.

IA functions:

- Receipts all surcharge funds;
- Manages all segregated accounts on a trustee basis for the CPUC and Boards;
- Disburses payments according to Board criteria (CPERB and ROO will authorize uniform electronic and paper systems for payment clearance);
- Maintain Customer Profile databases;
- Maintain Directories of Qualified EEPs, ESPs, Facilitators, and other authorized vendors;
- Originate loans linked with utility accounts and/or other credit instruments;
- Manage funds for programs funded by public bond issues;

The California Public Energy Resources Board (CPERB)

The CPERB is a statewide Board initially appointed by the CPUC in Stage I, and subsequently elected by Local Board Directors for three-year terms, thus the term Director-Elected Board (DEB). This state Board will provide central policy direction, and standardize operations to promote a unified California market for EE goods and services. The CPERB will consult closely with the ROO on policy matters to ensure conformance with CPUC decisions. CPERB Directors will be full time working directors. A "working director" model ensures accurate implementation of all policies and tight management of an evolving program.

CPERB functions:

- Specifies and procures "Electronic Platform" on which all PGC and Local Board-governed activity takes place:
  - -- Customer Profile databases
  - -- Customer/Facilitator interfaces
  - -- RRB/UDC data interchanges
- Specifies and procures telecommunications systems for all RRBs;
- Adopts and implements Measurement and Evaluation models;
- Authorizes payment clearance procedures administered by IA;
- Adopts Inspection and Commissioning protocols;
- Contracts for Research and Development;
- Recommends PGC equity formulations and budget targets for review by ROO and decision by CPUC;
- Sets global budgets for Local Boards;
- Conducts RFQs and RFPs for IA(s) at Stage II;
- Qualifies and registers all Facilitators, and some types of EEPs and ESPs;

Local Boards/Ratepayer-Elected Boards (REBs)

Local Boards will play a key role in allocating PGC funds. Local Boards will consist of full time working directors. A "working director" model ensures accurate implementation of all policies and tight management of an evolving program. Local Boards will serve only the residential class of ratepayers.

Local Board functions:

- Have discretionary budget authorities;
- Own and control facilities operated by IA (control may be by CPERB in Stage I)
- Control Customer Profile databases;
- Directly manage Inspection and Commissioning procedures;
- Directly manage building permit coordination activities;
- Coordinate programs funded by public bonds;
- May presage LDC evolution and functions
- Boundaries:
  - -- initially same as UDCs;
  - -- future boundaries may evolve as LDCs established;
  - -- local jurisdictions may play a role in REB boundary setting;
  - -- may be based on climate zones or other technical criteria;
  - -- ROO to receive and study boundary petitions, for decision by CPUC;
- Balloting:
  - -- registration at time of opening electric service account;
  - -- extended time period for voting - one month;
  - -- may ballot during "open enrollment periods" for Facilitator selection;
  - -- telephone/mail-card ballot, or both methods available;
  - -- secret ballot procedures;
  - -- ROO to supervise balloting;

DISTCOs/UDCs

DISTCOs/UDCs will be restricted from receiving PGC funds, until such time as restructuring reveals full financial and functional segregation of DISTCO functions from other electric service industry segments. However, other regulatory restrictions on DISTCO EE and ES activities should be minimized because of the difficulty of definition and enforcement. EE and ES will be areas of dynamic development for years to come, and DISTCOs will be full participants in technological innovations with EE implications. These implications cannot be foreseen well enough to pre-emptively regulate; attempts to do so could easily be counterproductive. The ROO and the CPERB will monitor UDCs for cross-subsidization or predatory pricing (e.g. "free" services) practices that undermine the development of robust and quality-oriented energy services. As DISTCOs are expected to remain highly regulated, the EE ROO or CPERB can initiate proceedings at the CPUC to challenge such practices. With a strong EE advocate in the form of the RRBs and CEEE, a balanced competitive marketplace will evolve.

DISTCO functions in a Restructured EE Industry:

- Continued role in Integrated Resource Planning (IRP);
- Mandatory cooperation of billing departments with credit-based EE programs undertaken by the CPERB, administered by IA, and approved by CPUC;
- DISTCO billing departments to reorganize billing formats to accommodate individualized billing detailing to support EE programs in all facets: information collection, periodic annualization and other statistical techniques related to performance measurement, credit granting, incentives, shared savings, etc.;
- DISTCO to adequately fund all information system requirements necessary to satisfactorily interface with IA "Electronic Platform" and automated records-decisioning/access, and telephonic authorizations;
- Provide billing and bill-insert/bill format advertising services for Facilitators, EEPs and ESPs.
- Cooperate with REB election machinery with bill inserts, and system requirements;
- Assume certain inspection, verification and commissioning functions for EE programs. Assume more active role in reporting and enforcement of a "Utility Building Energy Code (UBEC);"

  NOTE: Legislation granting an immunity from claims equivalent to that possessed by local building departments is necessary for DISTCOs to fully engage this type of role.

Facilitators

Facilitation roles can be performed by for-profit or "not-for-profit" entities. Facilitators will be integrators of energy services, utilizing the Electronic Platform and Customer Profile databases to promote EE and ES products and services. A consumer will select a Facilitator at time of establishing electric service at their residence, and can change that choice generally only during "open enrollment" periods annually. Facilitators will be budgeted fixed amounts from Local Boards based on the number of consumers selecting them. Only some Facilitators will be qualified for such capitation support, according to criteria established by the CPERB and CPUC. Facilitators can include Community-Based Organizations, industry and trade associations, energy consulting firms, or any other entity accepted by the CPERB and CPUC.

Facilitator functions:

- Market organizing activity;
- Buying Groups;
- Building design support;
- Program integration;
- Credit counseling;
- Education;
- Consumer protection;

NOTE: Facilitators could be a logical candidate for formalized consumer protection and advocacy functions, but this would be a distinctly different role from the marketing role generally envisioned. This requires careful consideration, with clear definitions. Only a few specialized organizations could undertake such a function, which might be better reserved with a special office at the California Department of Consumer Affairs.

SPECIAL TOPIC

THE CALIFORNIA ENERGY EFFICIENCY EXCHANGE (CEEE)
(RRB Version)

The CEEE is proposed as a specialized synthesis of RRBs and the facilitation function. It will be particularly effective for Commercial, Industrial, Agricultural and Institutional (CIAI) energy users to create and control their own organizations to conduct EE programs, aided by EE surcharge funding.

The EE market is more advanced in the CIAI markets, and in less need of a bureaucratized delivery system. One school of thought even argues for no government-sanctioned EE program intervention because of the difficulty of assuring equitable use of funds in those sectors. However, the environmental impacts of CIAI energy use require mitigation, particularly as relative energy costs for these markets are expected to decline. Also, economic security interests are served by programmatic support of EE in CIAI markets.

While a CEEE Board will have access to surcharge funds, this would not mean it would control all such funds; it will compete for them as a Facilitator, albeit a very sophisticated one. An effective CIAI Exchange operation can be established with only a portion of surcharge funds generated from CIAI customer classes. The equitable distribution of CIAI surcharge funds deserves careful CPUC treatment, and the Exchange will seek direct subsidies primarily for information system development. Other CEEE program proposals for surcharge funds must compete and be reviewed with others coming to the ROO and CPUC. Consideration can be given to continuing some UDC-coordinated CIAI programs and "Standard Offer" programs during Stage I; it would be preferable if these could be coordinated through the CEEE and disencumbered of their expensive Shareholder-Incentive and shared savings features.

The CEEE proposed here is distinctly private in character. It will be incorporated as a 501(c)(6) nonprofit corporation, an organizational type specific to Boards of Trade. As such it will be accountable to IRS rules and scrutiny, as well as that of the ROO. It will be a commercial exchange in the conventional sense of the term, bringing together buyers and sellers in private transactions. Types of activities it should undertake include:

1) Building Energy Utilization Archive (BEUA). The archive will be used by participating members to analyze facility performance. Data analysis will range in sophistication from simple calculations and table summaries to fully modeled building simulations. Extensive design assistance programs will be available in this system. Facilitators and shared licensing agreements will lower the cost of such analysis. Facility managers will have an online system to consult with peers, professional specialists, EEPs, manufacturer reps. and others, to assist in examining their facilities and conducting feasibility reviews for retrofits, additions and alterations. Any charges for information access and consulting assistance will be made according to Exchange schedules as well as by private agreements.

2) Process Energy Utilization Archive (PEUA). Similar informational exchange as described for buildings, but for CIAI energy use not associated with building space conditioning or lighting.

3) Creation of markets and contractual mechanisms for Exchange members to aggregate acquisition of energy services (distinct from supply, but see 8) below).

4) Establish accepted terms and conditions in EE service contracts, for reference or use by exchange participants.

5) Establish and maintain an ongoing system of RFPs and bid-letting for fully specified EE facility installations (new construction and retrofits; this concept is analogous to a builders' exchange). Such a system will service one-on-one transactions. The Exchange will establish accepted terms and conditions for standard agreements, for use by exchange participants.

6) Establish a buy/sell pricing, cataloguing and procurement system for EE equipment. The Exchange will establish standard terms and conditions under which buyers and sellers may choose to operate.

7) Establish accepted practices for collateralizing and financing CIAI EE measures, as well as providing credit reporting and loan insurance services for Exchange programs.

8) Creation of markets and contractual mechanisms whereby Exchange members can build and own new localized and distributed generation sources.

9) Creation of specialized markets in DSM under system peaking conditions that TOU pricing cannot satisfactorily address, e.g. system constraints, extended or intermittent peaking for process energy users, failures, emergency conditions, etc.

All services provided or facilitated in the above nine examples of Exchange activities will have benefit of standardized Exchange practices and rules. The Exchange will provide dispute resolution services or referrals.

Exchange Revenue

The CEEE will derive surcharge revenues from every CIAI member joining under this proposal. Entire customer classes or industrial code groups the CPUC designates as suitably served by the CEEE for EE program purposes could be assigned Exchange access and a portion of their surcharges, by the CPUC. This would be a tremendous incentive for the CEEE to propose and deliver effective EE programs. In the general RRB paradigm, the CEEE should be viewed as a large and sophisticated Facilitator.

Voting

Since the Exchange will be a private corporation, it will establish the procedures for electing its Board. Such a Board must achieve standing with the CPUC to be eligible for use of EE surcharge funds. The CEEE will thus be incentivized to demonstrate a formulation for its constitution acceptable to the CPUC.

A possible voting and constitution method would be to establish Exchange Divisions defined by industry classification and/or level of energy use, as a basis for the election of Advisory Directors.

Candidates for Advisory Directors would be expected to disclose technical credentials. Voting could be weighted on one or more formulas based on firm/institution characteristics:

- annual energy use
- number of employees
- annual sales or annual budgets

Such formulations could be used to make broad measurements of energy efficiency performance of firms, for broad tracking purposes. The CPUC during the initiation periodearly in 1997 should contract for a thorough study and analysis of rate classes, industry codes and types, and various definitions including market-oriented ones, of CIAI class energy users. Such a study is essential in the review of incentives and would be very useful to the CEEE, as it establishes its procedures and operations.

Proxy casting by representatives of groups engaged in aggregation or other cooperative activities would be permitted in Advisory Director elections. The technical Advisory Boards will be the primary vehicles for CEEE program design.

The Advisory Directors will elect the Exchange's Governing Board under this proposal. Such a tiered director arrangement promotes the rise of knowledgeable and qualified directors who need campaign only among a limited, yet representative and diverse group.

Such election machinery may seem elaborate. However, by constituting itself on such a detailed basis, the CEEE lays the foundation for conducting the various functions of a sophisticated, information-based organization.

Notes on Information Assets

The success of the CEEE's activities will vary according to the willingness of members to entrust it with accurate information. The private CEEE proposed here is best suited to be a repository of sensitive CIAI energy use information for Exchange-type purposes. The Exchange can also establish protocols whereby it is not actually holding the information, but facilitates the exchange

between private parties with standardized information and analysis protocols, and standard terms and conditions. Exchange controls and supervision authorities can be strengthened by due diligence-type activities and site visits conducted by exchange staff.

Program Staging

Industry Restructuring and new EE program initiation are lengthy complex undertakings. This proposal outlines two major Stages for EE program development (see Figs. 1 and 2).

Stage I: January 1, 1997 - February 29, 2000. This initial three-year period encompasses an initiation period of one year during 1997, and a subsequent two-year implementation period. The CPERB will be initially appointed by the CPUC, the seven seats filled by March 1, 1997. Even prior to that, the Commission will have issued Requests for Proposals (RFPs) for specialized management consulting and technical assistance, for which the ROO and CPERB would assume supervision according to their areas of responsibility. Additionally, specialized three/five member Advisory Committees should be named by the Commission by late-1996, to assist the CPERB in program development. Such Committees will be needed for Board Charter Drafting; Renewables; Direct Assistance (residential); Residential Program Design; CIAI Program Design; IA Office Operations; ROO Operations; Information Systems;

The Advisory Committees must be funded by the Commission. They must be coherent expert committees, rather than diffuse "stakeholder working groups". The CPERB upon constituting, will assume supervision of these Advisory Committees, and may use their advice as it sees fit. The term of the Advisory Committees should not extend beyond July 1, 1997, at which time the Local Boards will be activated, again through CPUC appointments of Trustee-Directors.

Commission-contracted consultants will be expected to work at least to December 31, 1997. In many cases, contracts may be extended into the operations period commencing January 1, 1998, particularly with respect to information systems training, operation and maintenance.

The Stage I three year period will be experimental in some respects, but it is essential that the basic governance structure be authoriative and consistent, and that the CPUC set forth clearly from the outset the extent to which it wishes to delegate authorities and operations out to market-based entities, governance Boards, and the ROO respectively. The initiating period permits a high degree of control over centralized policy which is desirable at first. In 1999 the Commission can review overall program design and effectiveness, and make adjustments before proceeding into the full-scale ratepayer election aspects of the Proposal. The additional time is also necessary to assess the prospect of near-term evolution of DISTCO/LDC boundaries.

Stage II: March 1, 2000 - . As of March 1, 2000, Directors of all Local Boards as well as the State CPERB should have been selected by the election-representation method. That will mean direct election by LDC-level ratepayers or by Local Board Directors. The CPUC may develop other criteria for recognizing duly-constituted Boards by virtue of Local Board derivation from local government

jurisdiction appointments. Legislation may provide Local Board criteria if they evolve into fully public entities, which is not proposed here.

It is to be expected that once the new program regime is established, numerous proposals for streamlining past government initiatives in energy conservation can be seriously entertained. From a public expenditure viewpoint, this proposal is capable of paying for itself simply by providing a coherent, locally-based framework with provision for centralized state policy direction. The Stage I period should continue to be a highly dynamic period when such streamlining can take place. As such, the ROO's responsibility for reviewing LDC boundary petitions could take on great significance.

Stage II will also mark the time for a possible major re-evaluation of how the IA Office functions. The IA Office is expected to be highly centralized during Stage I. As the Board structure and local operations mature, there may be some impetus for greater local management of IA-type functions. This area must be carefully reviewed jointly by the State and Local Boards, and the State Board and ROO will have final authority on IA Office procedural changes recommended to the CPUC. With that in mind, the option for decentralizing IA operations, and having different vendors assume IA functions (but all functioning on the common Electronic Platform owned by the Boards) would be available in Stage II.

Program Priorities and Fundamentals

The Ratepayer Responsible Board Proposal is in full agreement with the thrust of the Commission's policy decision that customer-specific subsidies are to be minimized, and market forces fostered. To this end, the highest priority of PGC investment for EE programs should be on building and maintaining a sophisticated information architecture, that will facilitate market forces and significantly lower transaction costs. Many EE measures require a high and accurate information content that is currently an expense representing the chief market barrier to implementation.

The ideal market transaction occurs where a reasonably informed customer makes a discriminating choice of goods and services competitively priced, that is best suited to a particular situation. Unfortunately, this higher specificity usually increases transaction costs, especially for specialized goods and services. The RRB program organization suggests that a commonly funded/subsidized information base, accessed by Facilitators familiar with its capacities, can lower transaction costs of customer-specific choices to a point of feasibility that does not currently exist for many EE measures. The PGC subsidy, then, is on transaction costs, not so much on the goods and service. The public good of mitigated environmental impacts and other coordinated uses of such an information system easily justify this subsidy. The goal then, is to promote private market transactions between individuals, individual firms, and EEPs as much as feasible.

There still exist unserved markets, underserved markets, and market approaches employing outreach to large numbers of consumers programmatically with economies of scale. One such approach is a "Standard Offer" system, that provides payments to contractors and customers for energy savings achieved. Such an approach can be considered, but it may be found unnecessarily expensive given new program capacities. It will be emphasized that mass programs may still have a role, but secondary to the superiority of one-on-one transactions, where the best Quality Control function available, the consumer, is staked into the equation.

The Electronic Platform

The RRB proposal presumes that the first priority of EE-PGC fund investment should be on information systems. It must be pointed out here, that administrative systems, market information systems, and Research and Development based on the information systems, will overlap. Since global budgetary restraints are expected, these distinctions and corresponding budget apportioning must be carefully made, since mathematical restrictions on administrative and R&D costs will be enforced.

What is this Electronic Platform? It is the single most powerful tool for market transformation and market barrier reduction the ratepayers can invest in. It will be procured and maintained by the Independent Administrator in Stage I. It must have as part of its foundation, under appropriate controls and rules, facile access to the account histories of customer building energy use. It will be built on a GIS (Geographic Information System) basis. It will have the capacity to hold sophisticated, detailed building site profiles, describing building characteristics as completely as a customer or EEP is willing to invest in. It will provide a basis for standard packages of information about a residential household to be entered, so that Facilitators and EEPs can expeditiously and accurately, provide estimates and quotes for common EE-related replacements and upgrades to home energy systems, e.g. hot water systems, HVAC units, window replacements, and roofing repairs. Under the management of the IA Office, the Electronic Platform will provide very quick assessments of benefit-cost effectiveness and the eligibility of financing EE improvements on the utility account or other credit instruments. These are but a few of the basic uses of the Electronic Platform.

Controls on access and use, and a variety of authorization procedures will be necessary to operate such a consumer-based information system. There is ample precedent for such sophistication in many other industries, and the time has come for the electric and energy services industry to come of age in this respect. It is precisely because of this issue of information management that the RRB proposal emphasizes clear separation of roles and functions and Local Boards for accountability, as well as a wholly-private CEEE. A well-managed Electronic Platform will actually elevate consumer protections, since all EEPs, ESPs, and Facilitators, among others, will be required to make extensive background and licensure filings. The program by design will be capable of monitoring EEP/ESP performance, and in the case of some contracts, payments will be performance-dependent.

The issue of data security is different for commercial and other non-residential sectors (CIAI), and an approach to addressing information management will be undertaken by the CEEE's Technical Advisory Boards.

The CPUC must ensure through its policy decisions and subsequent rulemaking proceedings, that the new EE program vehicles and the ROO will have the cooperation from UDCs on matters of information exchange and MIS joint development with EE programs.

Interagency Cooperation on the Electronic Platform

Undertaking the construction of an electronic modeling of the built environment in California will be a substantial investment with many implications. If the EE surcharge produced no other net gains, the planning tool created with the Electronic Platform would justify the investment.

The GIS modeling system proposed will be of use to electrical engineers planning system development and modification. With industry restructuring and the advent of distributed generation, it is essential that DISTCOs not have a headlock on system information necessary for such planning. The Electronic Platform can provide that.

A comprehensive seismic preparedness program should be incorporated into the system architecture for the Electronic Platform. This is an appropriate use of ratepayer money. There will be implications for other emergency preparedness programs and Disaster Response efforts as well. The State Office of Emergency Preparedness and other emergency offices should be consulted to maximize coordination and use of agency and program resources.

It would be a gross oversight if the built environment modeling system developed could not interrelate building code practices and procedures with EE programs. This is the third major dimension that should be integrated into the Electronic Platform. The State Building Standards Commission and the State Office of Information Technology should be fully engaged in the development of the system.

It is well known that system complexity and computer software procurement have pitfalls. Near-term objectives for having a functional information system to serve EE markets must be met, avoiding costly overreaching into complex systems developed precipitously, that might later be junked. However, a strategic vision for the comprehensive multi-dimensional system suggested here should be encompassed from the outset. The Commission should issue RFQs and RFPs as soon as possible to assemble an expert team of professional consultants in MIS design, software procurement and contracting to oversee construction of the Electronic Platform.

Integrating Other PGC Program Elements

The Commission's Policy Decision suggests there may be several surcharges and several Administrators of PGC-funded programs. While there are some PGC missions that may well be deserving of special Boards, Advisory/Budgetary Committees, or Trusts, the RRB proposal can minimize the fragmentation inherent to such proliferation. Constituted on a ratepayer basis, maintaining a local presence in Board form, and in control of the powerful information systems necessary to minimize transaction costs, the RRBs are the logical vehicle to execute a number of PGC program functions. Ultimately, the Local Boards and State CPERB may be the vehicles under which various conservation efforts can be streamlined and implemented.

Low-Income and Direct Assistance Programs. The Energy Efficiency component of low income and direct assistance/weatherization programs should be folded into the CPERB framework for implementation. Existing CBO activity in this area should be integrated with Facilitator roles that are available to them under this program design proposal. Given their other functions, it may be useful for low income programs to retain a State-Level Advisory Board, and a role at the Local Board level should be designed as well, but it is only sensible and economical that the same IA serving EE programs serve the low income component of PGC programming. An efficient IA should be able to administer the CARE program with substantial savings.

Renewables. This proposal actually favors the expansion of funding for implementation of renewable energy utilization and diminished EE program funding. A discussion of that is made below under "The 2% solution". Because EE goods and services are so advanced and require a sophisticated market transforming effort, the focus of the CPERB in Stage I should be on that, particularly if funding can be diminished in favor of a corresponding budget increase for renewable energy. Therefore, a separate State Renewables Advisory Board with budgetary and program authorities should be established for Stage I only. Program funds for renewables should be disbursed through the same IA Office established for the CPERB and Local Boards. Such a Renewables Board should share offices with the State CPERB. However, at Stage II, the separate Renewables Board should cease to exist, with its functions fully integrated into the RRB structure: local REBs and the State CPERB (DEB) elected by REB Directors. A satisfactory method of achieving a policy role for renewables within this framework should be achievable without conflict. It is expected that persons associated with the Renewables Advisory Board and program would do well in Director elections, for example.

Research and Development. R&D programming for the residential sector should be fully integrated under the State CPERB's authority. In the case of CIAI classes, the CPUC should designate contractor(s) to administer R&D funds for those sectors. In both cases, R&D funds should be limited to four general areas of activity:

1) Analyzing the rich information basis being built up in the Electronic Platform and the CEEE's Building Energy Utilization Archive, as well as supporting M&E work;

2) Supporting Measurement and Evaluation work, and verifying the efficacy and accuracy of technical standards used in all aspects of EE programs;

3) Reviewing and reporting out on the existing scientific literature, and applied research as they relate to use in California markets;

4) Reviewing and reporting out on the performance claims of EE goods and services brought to California's markets by manufacturers and other EEPs.

A discussion of R&D budgetary limits is made below under "The 2% Solution".

The 2% Solution

Remarkable progress in EE will be achievable with relatively small portions of billing revenue. California should lead the nation in this area. EE as an industry with developing markets has already begun to take hold. This is much less so for renewable energy. Because of that imbalance, this Proposal believes it is very plausible for the Commission to consider allocating approximately 1% of revenues billed on electricity and natural gas services to an EE surcharge, and 1% of such revenues to subsidizing a statewide Renewables Program. As previously set forth, a separate State Renewables Board would guide Renewables programming in Stage I, but in Stage II, the Renewables Program would be fully integrated under the CPERB. The 1% of revenues would be for program development, in addition to any costs associated with a renewables portfolio or credits-trading scheme. Again, the strategic program function of the 1% Fund for renewables would be identification and reduction of market barriers.

Total share of EE and Renewables surcharge funds dedicated to M&E and R&D combined should not exceed one-tenth of funding. Total share of EE and Renewables surcharge funds used in the administration of programs should not exceed one-tenth of funding. "Administration" should not be confused with Information Systems development, which will represent a significant investment and value-added potential. The ROO should not be funded with surcharge funds; this will place a constraint on its size and growth potential.

APPENDIX B

THE CHANGING NATURE OF THE PUBLIC INTEREST IN ENERGY EFFICIENCY DUE TO RESTRUCTURING

Implications For The Two Track Approach

Prepared for the CPUC
Energy Services Working Group

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EXECUTIVE SUMMARY

While it will make many changes in regulatory and industry structure, restructuring should not change our commitment to the basic goal of realizing least cost resource outcomes. Nevertheless changes due to restructuring imply important changes for how the public interest in this basic goal should be pursued. This is because the fundamental transformation from a regulatory to a market driven approach means a major shift in emphasis to delivering energy efficiency services because they provide value to customers rather than resource value to utilities.

By itself, the shift from a "resource" to "customer value" paradigm does not necessarily jeopardize our commitment to least cost resource goals. This is because well functioning markets facilitate consumers choosing what they value at the same time as they create resource value for society. However, the reconciliation between the new "customer value" and the old "resource value" paradigms can be realized if and only if markets are truly well functioning.

Maintaining our commitment to least cost resource goals under restructuring, especially on a long term sustainable basis, thus implies a change from the old emphasis on integrated resource planning to a new emphasis on realization of well functioning markets. The new word for this is "market transformation."

As is well documented in the DSM literature, the kind of well functioning markets needed to realize untapped energy efficiency opportunities requires that we reduce market barriers: both non-price and price barriers.

Fortunately the advance, over the last 20 years, in our knowledge about market barriers provides a scientific multi-disciplinary basis for launching a new strategic assault on the most egregiously difficult nemesis of energy efficiency potential--the non-price "transaction cost" barrier. Drawing on an accumulating body of knowledge--advances in both transaction cost economics and cognitive psychology corroborated by empirical studies of energy conservation behavior--we now understand that transaction cost barriers are something that can not be lightly dismissed as mere "hassle costs."

Transaction cost barriers begin with the difficulty that consumers have in ascertaining the quality of most energy efficiency products until after they make a purchase, and all too frequently not even then. This difficulty is exacerbated by the tendency of such large product related informational disparities between consumers and suppliers to trigger opportunistic behavior--deceit, misrepresentation, shoddy service, and other more extreme forms of fraud--that create major problems of veracity and mistrust. From the consumer perspective, the resulting increased likelihood that any given supplier may deceive means that energy service suppliers as a group, including the reputable ones, cannot be trusted. This in turn substantially increases the consumers transaction costs--both in terms of (i) the higher cost of screening out false claims from disreputable suppliers, and (ii) due to possible errors in screening, the higher risks of unsatisfactory service. In the end, this undermines the ability of reputable suppliers and high quality products to survive and ultimately the ability of competitive markets to provide such services.

To put it in slightly different terms, coping effectively with the transaction cost market barriers to the realization of energy efficiency is tantamount to providing the right kind of consumer protection and assistance. To achieve the well-functioning markets necessary, under restructuring, to meet traditional energy efficiency goals we must undertake immediate efforts to improve in those areas that are most urgent and best understood, such as providing better energy use feedback, and stronger safeguards against opportunistic energy service providers. Because there is still much left to learn it is equally important, however, that we make an ongoing commitment to a new strategic market transformation capability that is essential for continuing to advance our basic understanding of effective, practical, cost beneficial ways of reducing market barriers.

Along with these non-price transaction cost barriers, the mispricing of energy has historically represented a widely recognized barrier to realization of well functioning energy efficiency markets. This barrier can be eliminated by applying marginal cost pricing principles under which rates are designed so that customer's marginal rates are aligned with a utility's marginal costs. Although the nature of the underlying concerns have changed since the 1970s, when this principle was first adopted, this marginal cost pricing principle continues to be an important part of any commitment to least cost resource goals. Taken in combination with those efforts needed to reduce non-price barriers, implementation of marginal cost pricing principles is necessary, under restructuring, for two reasons. It is necessary to assure that competitive markets are targeted on opportunities that realize the greatest energy savings. And it is necessary to eliminate the significant revenue losses that will otherwise undermine utilities' ability to contribute to healthy energy service markets.

To explore the implications for the relationship between Track 1 and Track 2 activities we distinguish between (1) the supplier-of-last-resort, and (2) market-barrier-reducer approaches to Track 2.

Under a supplier-of-last-resort approach ratepayer funded activities would focus on the same kinds of energy efficiency products as private providers but target those market segments that are not naturally provided by competitive markets. However, because it focuses on the same kinds of products, this approach would suffer from the same kinds of market barriers as Track 1 competitive markets.

By way of contrast, under a market-barrier-reducer approach public funds would focus on different kinds of activities than those naturally provided by competitive markets because they would be specifically designed to be provided for competitive markets. Priority would be given to those kinds of activities that can be uniquely provided under public sponsorship and draw on our knowledge of market barriers to safeguard against opportunism and economize on transaction costs. If successful, the market-barrier-reducer approach would eventually crate a situation where ratepayer funded "suppliers-of-last-resort" would not be needed because competitive markets would be functioning well enough to realize all practically achievable cost/beneficial energy efficiency.

To briefly recapitulate, the "market barrier reducer" approach to publicly funded Track 2 is consistent with the CPUC's criterion for use of ratepayer public goods surcharge funds. It is necessary, under restructuring, to satisfy our traditional commitment to least cost resource

goals; as well as our new commitment to meaningful consumer choice. Based on advances in our knowledge about how to cope with market barriers there is reason, given sufficient priority and commitment, for some optimism that such an approach could succeed. Under this approach the ratepayer funded Track 2 would be complementary to and strongly supportive of the privately funded competitive markets envisioned under Track 1.

THE CHANGING NATURE OF THE PUBLIC INTEREST IN ENERGY EFFICIENCY DUE TO RESTRUCTURING

1.0 Changes in the Focus of Public Interest in Energy Efficiency Due to Restructuring

While it will make many changes in regulatory and industry structure, restructuring should not change our basic commitment to the broad goal of realizing least cost resource outcomes. Nevertheless there are a number of changes due to restructuring that have important implications for how the public interest in this goal should be pursued. These implications are reinforced by gains in small scale smart technologies, and knowledge about the nature of market barriers to realizing energy efficiency opportunities.

1.1 The Fundamental Transformation: The Shift From Centralized Planning to Decentralized Markets

At the heart of restructuring is a fundamental transformation to greater reliance on market, as distinct from regulatory, driven outcomes. In shifting to reliance on market competition for the supply of generation resources the regulator gives up its ability to mandate an integrated resource planning (IRP) process to determine the least cost mix of supply and demand resources. This is simply because the regulator cannot mandate generation companies to limit their supply of resources to some regulatorily approved plan without undermining the efficacy of the very decentralized market incentives they are trying to invoke.

1.2 Reconciling Resource And Customer Value Paradigms

The transformation from a regulatory- to a market-driven approach carries with it a corresponding shift in emphasis to delivering energy efficiency services because they provide value to customers rather than resource value to utilities.

This shift in emphasis to a customer value paradigm is sometimes perceived as representing a departure from California's traditional energy efficiency commitment to "resource value," i.e. least cost resource outcome goals.

Two observations provide the key to reconciling these two perspectives as follows: First, is the fact that markets, to the extent they are well functioning, respond efficiently and innovatively to enhance, and ultimately strive to maximize, genuine customer value. Second, is the fact that energy efficiency is rarely, if ever, a product per se. Rather it is almost always a characteristic of a product which also has other non-energy characteristics. Indeed, as has been increasingly documented in recent years, non-energy benefits frequently enhance and, in many cases, are extremely important to the total customer cost (and benefit) justification for acquiring energy efficient products (e.g., compact florescents with their associated productivity benefits, retrofit thermal efficient windows with their associated noise reduction and aesthetic benefits).[1]

There is, thus, no necessary contradiction between maximizing customer value in the choice of products and minimizing energy resource cost in the choice of energy efficiency characteristics. This is because well functioning markets establish conditions conducive to consumers choosing what they value at the same time, as if by invisible hand, they create resource value for society. The catch, or the potential catch, lies in the phrase well functioning markets. In short, it is only if markets are well functioning and effectively rooted in meaningful consumer choice, encompassing both individual and collective aspects of consumer preference, that they will also be likely to provide least cost energy resource outcomes. This, as discussed in Section 2.0, will require significant market transformation efforts.

1.3 Focus of Public Interest in Energy Efficiency Shifts From Central IRP to Realization of Well Functioning Markets Rooted in Meaningful Consumer Choice

The preceding analysis implies that our ability to maintain commitment to traditional energy efficiency goals will require a major change in the focus of public interest energy efficiency activities. That is, maintaining a commitment to least cost energy resource outcomes under restructuring will require focusing public interest activities on the realization of well functioning markets that are rooted in meaningful value enhancing consumer choice. It is from this perspective that CEC's advocacy for broad and meaningful consumer choice[2] is connected to its equally strong advocacy for maintaining California's historical commitment to public interest goals of energy efficiency through an increased focus on market transformation[3].

These CEC positions, moreover, seem highly consistent with CPUC's recent decision in which they reaffirm their intent to rely increasingly on "the broadest possible array of choice in which the former ratepayer can function as an intelligent self-interested customer";[4] and in which they stress the crucial connection between the concept of competition and consumer choice, noting that, "In absence of well understood and easily exercised consumer options the genius of competition is thwarted."[5]

Nevertheless, despite the widely recognized importance of intelligently exercised consumer choice there has been an under appreciation of the corresponding importance of assuring that such choice be exercised with equal intelligence on the demand as well as on the supply side of the meter. Advances in interactive communications and control especially when taken in combination with parallel advances in small scale end-use energy efficiency and distributed energy technologies promise to substantially enhance the potential of the demand side to compete with supply side alternatives.[6] This means, in effect, that the full benefits of restructuring will be not realized unless and until competition occurs effectively in two dimensions: (1) between energy supply alternatives, and (2) between supply side and smaller scale demand side alternatives.[7]

This observation about the importance of fostering competition from the demand side raises a closely related point regarding what are likely to be the major economic efficiency gains due to restructuring. To date, the conventional wisdom appears to be that these efficiency gains will come for the most part in the form of lower electricity prices. But based on historical

experience with deregulation this view is probably mistaken. Even if it is true for large industrial customers, who appear to have been primarily motivated by the prospect of lower electricity prices, it is unlikely to be true for the majority of smaller customers. At best this view reflects a vast under appreciation of the potential efficiency gains that restructuring could deliver, even for large customers, through what economists refer to as product differentiation.[8] Indeed some analysts argue that much of the efficiency gains realizable through electric industry restructuring will come in the form of increased product differentiation.[9] In other words, we might reasonably expect that the principle benefits of restructuring for most customers will be due to service differentiations and enhancements that are tailored to better meet the circumstances, needs, and preferences of individual consumers--thereby increasing the genuine value per consumer dollar spent. The potential for such product and service differentiation gains stems from both the more flexible market style governance under restructuring and advancing smart technologies. The potential for differentiation begins with rate and product unbundling that will allow customers to choose quality differentiated combinations of the traditional components of electricity service--power quality, reliability, and more intelligently managed variations in off-peak versus on-peak power. But most importantly, this unbundling of the components of traditional electricity service when taken in combination with the increased sophistication of metering, communications, and control technology opens up a corresponding expansion in the range of available choice on the demand or customer side of the meter.

1.4 Principles of Meaningful Consumer Choice

Unfortunately, and somewhat ominously, along with this expansion in the range of choice comes an inevitable increase in the complexity and difficulty associated with consumers making meaningful genuine value enhancing choices. It is thus our principle thesis that in order to realize the potential efficiency gains attributable to increased product and energy service differentiation, which we believe are likely to be the major source of economic efficiency gains realizable through restructuring, it is necessary to satisfy what we refer to as four basic principles of meaningful consumer choice.[10]

These principles can be briefly stated as follows:

(1) maximizing the amount of potentially valuable choices available to consumers;
(2) given such choices, maximizing the ability of consumers to get genuine value for what they pay by making the choice that best satisfies their needs at reasonable competitive prices;
(3) given that individual consumers make their best choice, minimizing the degree to which the costs caused by this choice are imposed on others, and
(4) any departure from pricing practice that results in payments other than those justified by principles #2 and #3 (e.g., subsidies) are limited to those cases that are justified on the basis of accepted community standards of fairness and that are transparently disclosed to the public.

Without attempting to explain the basis of these principles in detail there are three points worth emphasizing here. First, taken in combination, these principles represent an attempt to simultaneously embrace the twin societal objectives of efficiency and fairness in mutually

reinforcing ways. Second, the principles incorporate what consumers value by way of collective public, as well as individual private, goods such as their desire to avoid environmental damage (via principle #3) and their desire to avoid depriving low income households of essential levels of service (via principle #4). Finally, as I elaborate in the following sections, satisfying these principles requires doing precisely those things necessary to realize the full economic potential (private plus public) associated with energy efficiency.

2.0 Reducing Market Barriers to Energy Efficiency Requires the Right Kind of Consumer Assistance and Protection

2.1 Introduction

As part of its concern for achieving intelligent consumer choice the CPUC appears cognizant of the need for improved consumer education and protection, saying that they "will continue and expand our role of providing protection, safety, and information to consumers and to provide a forum for resolution of customer complaints about all aspects of electric service" (p. 184). Elaborating, the CPUC accepts the comments by UCAN and the Greenlining Institute, to the effect that "customers have been particularly vulnerable to fraud in other newly deregulated industries and propose…to establish an independent Education Trust modeled after the Telecommunications Education Trust (TET)"[11] and to consider the possibility of "requiring energy service providers to register or obtain a license.[12] While representing moves in the right direction these proposals, especially in light of the recent phasing out of the TET,[13] do not come close to adequately addressing the full range and complexity of the underlying consumer governance issues. Rather, for purposes of realizing full product differentiation benefits, especially those associated with demand side competition, we are also concerned with the substantial evidence, accumulated over the past 20 years, regarding market barriers that prevent realization of meaningful consumer choice.

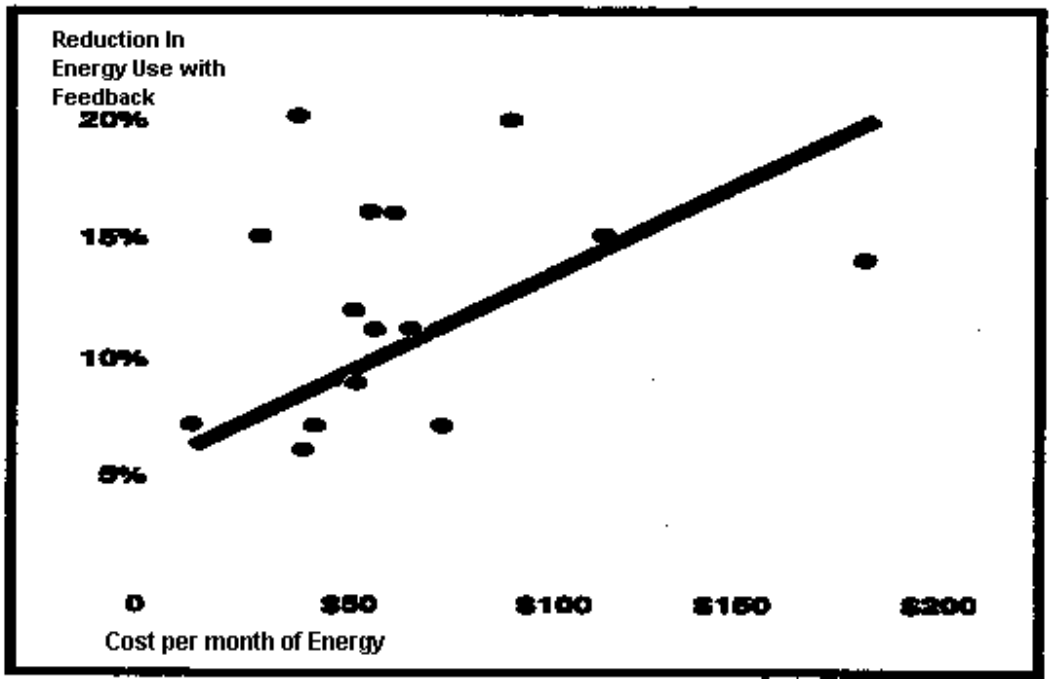
2.2 Advancing Knowledge About Market Barriers

It is worth noting that advances in our understanding about the nature of market barriers have come not only from behavioral scientists' study of energy conservation behavior but also from other disciplines, most notably transaction cost economics and cognitive psychology, which have no direct connection to energy issues per se. Further worth noting is the fact that the general insights developed by cognitive psychologists and transaction cost economists related to consumer behavior and market performance are confirmed by specific empirical findings to energy conservation behavior. Taken in their entirety the cumulative multidisciplinary body of knowledge, especially in view of its complementary and mutually reinforcing nature, provide a strong scientific foundation from which to launch a much more direct attack on the problem of how to achieve market transforming, lasting reduction in market barriers which have historically prevented full realization of energy efficiency opportunities.

Space does not permit a detailed review of the findings of the different disciplines alluded to here.[14] But for purposes of a brief description we may think of market barriers, other than those associated with mispricing which I discuss in Section 3.0, as consisting of transaction costs--in the sense that this term is used by transaction cost economists.

Paralleling studies of energy conservation behavior and findings of large "energy efficiency gaps" transaction cost economists show how certain kinds of trans action costs can greatly interfere with the realization of well functioning markets.[i] One of their central insights is that problems are particularly severe in markets that are charact erized by large information dis-parities between consumers and sellers. The extent of these informa tion disparities will, moreover, vary depending on the characteristics of the product--in particular, at what point in the purchase cycle and to what extent consumers have an ability to reliably determine product quality. In the case of so called "search goods" quality may be ascertained by searching for information prior to purchase. But in the case of "experience goods," consumers do not have the ability to reliably determine product qual ity before they make a purchase and must rely on learning from experience after the purchase. And in the case of "credence goods," consumers, as is often the case for energy services, cannot ascertain the quality even after they have had experience with their purchase. For example, consumers wonder but frequent ly cannot tell whether their new refrigerator is really saving energy; whether their insulation was installed properly; or whether the maintenance on their air conditioning system was per formed adequately. Likewise, many customers will be unable to determine the bene fits of CPUC's proposed virtual direct access option in advance. And unless provision is made for better feedback on their energy use, e.g. that is weather adjusted, it is unlikely, in many cases, that they can reliably make this determination even after they have experience. These transaction cost economists' insights resonate strongly with the major behavioral scientist's findings about the importance of better energy use feedback for realizing energy conservation (see Box A).

BOX A
FEEDBACK REDUCES ENERGY USE



"A number of studies, have given householders feedback on energy consumption--daily reminders of how much they are using. The more people pay for energy, the larger the percentage they tend to conserve when given feedback. Each dot represents the conservation achieved in a particular study; the line shows average savings."[ii]

The difficulty of realizing well functioning markets is substantially exacerbated by the tendency for such large product related informational disparities to trigger opportunism. As defined by transaction cost economists, opportunism includes blatant forms such as lying, stealing, and cheating, but more often involves subtle forms of deceit. As O.E. Williamson puts it, opportunism "generally refers to incomplete or distorted disclosure of information, especially calculated efforts to mislead, distort, disguise, obfuscate, or otherwise confuse.[17]

Unless cured, the combination of large informational disparities and opportunism can create a vicious cycle. When consumers have difficulty in ascertaining quality even after making their purchase this establishes market conditions conducive to the survival of disreputable suppliers who may more easily, without detection, profit from deceit, misrepresentation, shoddy service, and other more extreme forms of fraud. From the consumer perspective, the resulting increased likelihood that any given supplier may be disreputable means that suppliers as a group, including the reputable ones, cannot be trusted. The net effect is to substantially increase the consumers transaction costs--both in terms of (i) the higher cost of screening out false claims from disreputable suppliers, and (ii) due to possible errors in screening, the higher risks of unsatisfactory service.

Again this theoretical transaction cost insight is corroborated by another major energy conservation behavioral findings to wit: the effect of information does not depend solely on, and may only be weakly related to, the amount and technical quality of the information made available.[18] The trustworthiness of the source is crucial. As transaction cost economists put it, trust greatly economizes on the costs of information acquisition. As Stern puts it "people are more likely to invest in energy efficiency because they have heard about it from people they trust who have invested and are satisfied with the results."[19]

Further compounding matters, increased consumer transaction costs ramify to other actors throughout the market. By increasing the consumer's total cost significantly beyond the price that can be charged, these transaction costs undermine the incentives and the ability of reputable, legitimate suppliers to provide higher quality energy efficiency products and services. For example, consistent with findings in the energy conservation literature, landlords cannot charge rents adequate to cover the costs of, distributors are reluctant to allocate their scarce space to, lenders will not fully collateralize, and manufacturers cannot justify carrying out research and development necessary to create higher quality energy efficient products that would otherwise be economically cost-beneficial.[20]

Compounding matters still further are the findings by cognitive psychologists who over the last 20 years have created what Piattelli-Palmerini calls a "revolution in the theory of rationality."[21] This "revolution" stems from their discovery and cataloguing of the widespread tendency of people, faced with certain kinds of choice situations, to rely on mental shortcuts and fall subconsciously prey to certain kinds of reasoning strategies that are systematically biased.[22] In connection with energy service markets, that are characterized by large informational disparities and vulnerability to opportunistic deceit, the widespread existence of these subconscious reasoning biases means that whether or not consumer choice is exercised intelligently, as the CPUC would like to foster,[23] or in unintelligent biased fashion depends crucially, as I elaborate below, on framing effects.

A central insight from cognitive psychology pertains to the power of framing effects to subconsciously influence choice. Briefly, framing is a mental short cut that simplifies decision problems by focusing on certain aspects of a problem and pushing other aspects into the background, i.e. outside the frame. For example, in assessing gains and losses, consumers relying on a widely used mental short cut, estimate relative to some reference point. But the determination of this reference point is very susceptible to framing effects. This leads to behavior, at odds with conventional rationality norms, where consumers faced with the exact same objective economic facts will make different decisions depending on how the choice is framed. This too resonates with empirical findings that consumers, in their energy conservation behavior, rely on so called "folk quantification."[24]

One bias, particularly important for energy service choice, occurs because in deciding whether or not to take actions consumers' estimates will be highly asymmetric--weighted more heavily towards avoiding loss, relative to their point of reference, than in realizing gain. In confronting risky choices they will, in effect, be risk avoiders when it comes to realizing gain, while being risk seekers when it comes to avoiding loss. The CPUC's proposal to allow consumers to use RTP or TOU tariffs by choosing so called "virtual direct access" provides one immediate example of why this bias is important. Since consumers will not know for sure whether or not virtual direct access will lower their bills this choice entails some risk. But instead of being based intelligently on the objective economic facts, we may predict that consumers will be strongly influenced by how the choice is framed. In particular, consumers will be much more likely to opt for virtual direct access if it is framed as a way of avoiding a loss than if it is framed as a way of realizing a gain.

Another bias likely to be important for many energy service choices pertains to the widespread tendency, dubbed the "endowment effect," for people to underweigh opportunity costs. According to standard market competition theory a rational consumer should treat all costs, whether they are out-of-pocket costs or opportunity costs, as equal. But consumers characteristically see out-of-pocket costs as losses while they treat opportunity costs as foregone gains. Combined with their tendency to place higher weight on loss avoidance than gain realization this creates the observed tendency for consumers to underweigh the opportunity cost (e.g. the foregone gain) relative to the out-of-pocket cost (i.e. the loss) that is associated with a decision. As a result they "irrationally" favor the status quo (i.e. reference situation) that they perceive themselves as "endowed" with. This bias helps account for what appears to be a systematic underweighting by most consumers of the opportunity costs, i.e. benefits foregone, associated with <u>not</u> adopting new energy efficiency technologies such as compact florescents.

By way of further illustrating their impact, the everyday consumer choice between paying cash versus using a credit card provides a particularly interesting example of the powers of framing and endowment effects on the behavior of market participants. The use of credit cards raises the cost experienced by the store. But as far as the consumer is concerned these additional costs may be famed in two different ways--either as a surcharge for credit card use or as a discount for paying cash. While the objective economic facts are exactly the same in either case the evidence is overwhelming that, because of our subconscious reasoning biases, we are much more likely to use the credit card if there is no surcharge. As described in Box B credit card companies in pressing for modifications in pending legislation that allowed

them to avoid this surcharge, as distinct from a discount for cash, appeared to be very aware of the power of these framing and endowment effects.

BOX B - FRAMING OF CREDIT CARD DECISIONS TO EXPLOIT THE ENDOWMENT EFFECT

When credit cards were first issued, credit card companies banned their affiliated stores from charging higher prices to credit card users (despite the charges such stores had to absorb for their use). When a bill to ban such agreements appeared likely to pass Congress in the 1970s the credit card companies lobbied hard and succeeded in obtaining a law which would allow the difference to take the form of a discount for paying cash rather than a credit card surcharge. The objective economic facts are the same either way so this appears to be an argument over form rather than substance. But given what we now understand about the endowment effect these two different ways of framing the choice are likely to be decisive in determining credit card use. This is because consumers would see the cash discount only as a "opportunity cost" of using a credit card but the surcharge as an out-of-pocket cost.[25]

2.3 The Right Kind of Consumer Assistance and Protection

Considering what we now know about the nature of transaction cost market barriers it is clear that in order to realize well-functioning markets rooted in intelligent meaningful consumer choice, regulators must come to grips with both (i) the inherent "credence" good characteristics, and associated large informational disparities, of many energy products and services, and (2) the propensity, under these conditions, of some energy service suppliers, to engage opportunistically, at times in blatant, but probably more often in subtle form of deceit. Because of its greater prevalence, coping with the problem of subtle deceit is more important. But because of the widespread tendency for consumers to fall subconsciously prey to biased reasoning strategies, this problem is also by far the most difficult one to solve. In attempting to deal with the problem of subtle deceit regulators must, in effect, recognize that biased reasoning strategies may, on the one hand, be opportunistically exploited by use of improper deceptive framing but can, on the other hand, be effectively overcome only by careful use of non-deceptive helpful framing. Whether or not framing is helpful or hurtful depends, as Kempton points out, on whether or not it leads most consumers to draw the correct inference.[26]

To put it in slightly different terms, coping effectively with the transaction cost market barriers to the realization of energy efficiency is tantamount to providing the right kind of consumer protection and assistance. The right kind of protection and assistance should, to paraphrase the CPUC, empower the consumer to intelligently choose from "the broadest possible array of choice" those options which provide him maximum genuine value per dollar. But, as is clear from the preceding analysis, empowering the consumer in the restructured environment of expanded, more complicated choice will require doing many things

in the public interest that are not being done very well now. For example, based on our knowledge of the nature of market barriers some obvious candidates for improvement are:

(a) revamping of the way customers are billed so they get user friendly weather adjusted more detailed feedback of how they use and can save energy,[27]
(b) establishing a system which allows customers to independently verify the quality of energy efficiency products and the competence and integrity of competing providers of energy efficiency services, and
(c) establishing a system which effectively removes disreputable providers from the market,
(d) establishing safeguards against, not only blatantly fraudulent, but also more subtly deceptive sales claims, and
(e) providing for a low cost dependable way for the customer to resolve disputes that may be associated with deceptive claims, shoddy workmanship, and other kinds of unsatisfactory delivery of energy efficiency services.

Even though our knowledge about the nature of market barriers has advanced remarkably over the last 20 years the fact nevertheless remains that we do not yet have sufficient detailed knowledge of how to best go about reducing these barriers. For example, although we can be confident that better energy use feedback will help empower consumers by reducing informational disparities we don't yet know the best, most cost-beneficial, way of providing this feedback. And we don't know to what extent or how such feedback might best be tailored to different consumer subgroups. The same can be said for each of the other items on the preceding short list of candidates for improvement.

Additionally, until we do much more detailed assessment of the circumstances surrounding newly emerging energy services markets that will result from restructuring we do not yet have a complete list.

The upshot of these considerations is that the realization of the well-functioning markets necessary, under restructuring, to meet traditional energy efficiency goals entails a major new public interest agenda. In pursuing this agenda, we should undertake immediate efforts to improve in those areas that are best understood, such as providing better energy use feedback, and most urgent, such as safeguarding against opportunistic energy service providers. However, because there is still much left to learn it is <u>equally important</u> that we also make an ongoing commitment to a new strategic market transformation assessment capability and to closely related support for the kind of "soft-science" RD&D that is essential for continuing to advance our basic understanding of effective, practical cost beneficial ways in which market barriers may be reduced.

3.0 Reducing Price Barriers to Energy Efficiency Requires Implementation of Marginal Cost Pricing Principles

3.1 The Changing Circumstances and Reasons for Being Concerned About Mispricing of Electricity

Of all the market barriers discussed in the DSM literature there is probably the strongest concensus, even among those who are critical of utility energy efficiency DSM programs, that mispricing of energy is a significant reason for market failure. When this issue was first raised in the 1970s electricity mispricing generally resulted in the underpricing of energy. Underpricing of electricity led to marginal rates, which determine how much a customer can save on his bill by additional conservation, that were lower than marginal costs, which determine the true costs to society of using (or failing to conserve) additional energy. At the time, this underpricing occurred for two principal reasons: (1) the failure of rates to reflect the full societal costs of using energy, most notably those associated with environmental damage--the so called environmental externalities problem, and (2) the tendency of traditional rate base regulation to set rates on the basis of average historical embedded costs rather than future oriented marginal cost principles.

Since the 1970s important changes have occurred in relation to both environmental externalities and regulated rates that impact the mispricing of energy. First, as a combined result of California's emphasis on clean technologies and tougher environmental regulations, including those adopted as part of the CEC's power plant siting process, much, if not most, of the environmental "externalties" that existed in the 1970s are now "internalized" and are thus reflected in the utility's costs. Nevertheless, there are some remaining externalities.

On first glance it might appear desirable to account for any remaining environmental damage by imposing a "pollution tax" on the customer's use of electricity. Conceivably, if we thought it would work, we could use the public goods surcharge to levy such a tax. However, because of California's highly diversified electricity system any attempt to solve the electricity externalities problem by imposing a customer usage based pollution tax would not work. This is because the tax, even one applying to CO_2 emissions, would penalize both "clean" and "dirty" plants. This is among the reasons that the CEC believes that the proper policy solution to electricity mispricing, as it pertains to remaining environmental externalities, is through continued efforts to internalize these externalities in a way that targets the "dirtier" plants and thereby helps encourage the adoption of cleaner technologies.[28]

The second important change, in relation to regulated rates, has been a reversal in the relationship between marginal rates and marginal costs. Although varying at different times and locations, marginal rates are on average now much higher than marginal costs. This can be seen by virtue of the fact that, while average total costs are in the neighborhood of 10 cents per kWh, marginal (avoidable) costs per kWh (averaged over different times and places), are on the order of only 4 to 5 cents per kWh.[29] As a result of this reversal in the relationship between marginal costs and marginal revenues per kWh used any reduction in energy use that might be due to increased energy conservation is now unavoidably accompanied by a significant net revenue loss to utilities.[30]

The dramatic change in circumstances since the 1970s, when mispricing issues first arose, have important implications for the nature of, but they by no means eliminate, our public interest concerns. In particular these concerns should now be focused on two aspects: (1) assuring well functioning markets necessary to realize least cost resource goals, and (2) avoiding perverse incentives related to revenue losses that, when other aspects of restructuring are taken into account, threaten to undermine the diligent pursuit of energy efficiency by utilities. As I elaborate in Sections 3.2 and 3.3 below both these concerns point to the continued importance of implementing the marginal cost pricing principles, first formulated in the 1970s, that are still part of CEC's load management standards.[31]

3.2 Marginal Cost Pricing Necessary to Link Private Markets to Least Cost Resource Goals

A major reason why marginal cost pricing principles are still in the public interest pertains to the central function of prices as a means of conveying information about costs. Briefly, a major reason why decentralized markets are capable of realizing efficiency gains relative to centralized planning/regulation approaches, and why we might justifiably restructure in the first place, pertains to the extraordinarily compact way in which competitive prices provide relevant information about the underlying cost consequences of decentralized decisions.[32] Given incorporation of externalities, which per Section 3.1 can be best realized in California's diversified system through power plant internalization, marginal cost pricing communicates the right information about the true societal costs that are caused by using or saved by conserving additional energy. Even though, for the reasons described in Section 2.0, such prices are not sufficient they are nevertheless necessary to assure the kind of well functioning markets required to meet our traditional least cost resource goals.

The CPUC's proposal to increase reliance on real time and time of use pricing is one illustration of how the application of this principle works.[33] By more accurately conveying the fact that peak time electricity use costs more, partly because the system must rely on less energy efficient power plants, such time related cost differentiated pricing provides the information that customers need to target their energy efficiency efforts where they will do the most societal good.

Observe, in particular, that such cost differentiated pricing compactly integrates information about energy efficiency on both the supply (i.e. the comparative energy efficiency of power plants) and the demand sides (i.e. the resource value of conservation). The right marginal-cost-reflecting marginal rates thus provide the exact same information in decentralized markets that would be necessary for the integrated resource planner in the current centralized planning approach. That is, whether done through centralized or decentralized institutions this information is the sine qua non of integrated least cost resource planning.

Observe further that marginal cost pricing helps with the problem of <u>net</u> energy use. Recalling another, still relevant, lesson from the 1970s: when it comes to total <u>net</u> energy use we must consider "indirect" as well as direct use. As we learned from the net energy analysts, it ill behooves us to ignore indirect use because, as best we can estimate, "indirect" energy use accounts on <u>average</u> for about two-thirds of total energy use--thus representing double the amount of "direct" energy use.[34] Moreover, particularly germane to pricing, this average is subject to extremely wide variations. For example, because of the "indirect" energy

"embodied" in the construction of new power plants, reducing peak time use not only saves more "direct," but also substantially more "indirect," energy than reducing off-peak use.

As net energy advocates used to argue, both because of its quantitative significance and its wide variation, there is danger that policies designed to pursue the more visible savings in "direct" energy are prone to overlooking opportunities for saving even larger amounts of "indirect" energy and even, they warned, to producing a negative net energy outcomes as an unintended result of "direct" energy savings being more than offset by an even greater increase in "indirect" energy use. By virtue of its ability to convey the relevant cost information so compactly there is no more practical means than marginal cost pricing for guarding against this danger and targeting energy efficient measures so they save the most net, direct plus indirect, energy use.

3.3 Marginal Cost Pricing Necessary to Avoid Perverse Utility Incentives

A second, equally compelling reason for implementing marginal cost pricing principles to realize energy efficiency goals pertains to concerns about utility incentives to diligently pursue energy efficiency. The public interest in this case occurs because, even with the expected entry of new energy service firms, it is still highly likely that utilities, or utility distribution companies, will have unique intrinsic comparative advantages, due to their expertise and reputational advantages, for the delivery of some energy efficiency services. Because of the criticality of trustworthy information in reducing the transaction cost barriers described in Section 2.0 their local reputational advantages, especially if maintained, are likely to be particularly important in this respect.

By far the largest potential disincentive to utility energy efficiency services is due to the problem of revenue losses that, as described in Section 3.1, is now associated with additional energy conservation. This problem first reared its head during the mid-1980s when sharply falling avoided (marginal) costs led to significant utility revenue losses and a subsequent sharp drop in their energy efficiency efforts.[35] The CPUC has attempted to cope with this problem through various adjustments, i.e. the Electric Resources Rate Adjustment (ERAM) and general rate case (GRC) "true ups," which hold utilities harmless by passing revenue losses through to customers. Judging from the focus on ERAM it seems to be not well understood that ERAM, by itself, serves only a relatively minor short run function of allowing pass-through between rate cases. As a result, as Eto et.al. point out, ERAM has historically accounted for only a relatively small portion of the relevant pass-through, with the major portion due to GRC "true-ups."[36]

Despite these adjustments to avoid revenue losses, even when combined with positive share-holder incentives instituted as a result of the "Collaborative,"[37] revenue losses are so large, on the order of a dollar for every dollar of direct utility expenditure, that they continue to constrain utility energy efficiency efforts.[38]

Unfortunately, despite the limitations of the current set of incentive fixes, restructuring threatens to make things worse. At root this is because automatic pass throughs tend to weaken rather than strengthen incentives. The use of automatic pass throughs relied on so heavily in the past is, thus, in fundamental conflict with CPUC's new "incentives-style"

performance based regulation (PBR) philosophy. And, in keeping with this philosophy, the CPUC has said, for reasons unrelated to energy efficiency, that it will discontinue ERAM.[39]

Furthermore, the possibilities of resuscitating ERAM in some more philosophically acceptable modified "energy efficiency only" statistical form seems particularly remote when we consider the associated discontinuation, under PBR, of general rate cases. Absent GRC "true ups" which have historically accounted for the bulk of the revenue loss adjustment, there does not appear to be any feasible way to go from what is now a short term (non-statistical) ERAM responsible for minor pass throughs to what would, under the new structure, have to be a long term statistical ERAM responsible for much larger pass throughs. Indeed, if we take SC&E's estimates at our 3/28 meeting, at some point the required revenue loss adjustments, as the annual requirements accumulate over time, would exceed the annual surcharge revenue.[40]

The upshot of these considerations is that the current approach to fixing the revenue loss problem won't work satisfactorily in combination with other elements of restructuring. This leaves the possibility of alternative solutions which might be more compatible with restructuring. Three such alternatives, all of which appear to be philosophically consistent with restructuring, are (1) reliance on the public surcharge revenues, (2) divesture of generation resources, and (3) marginal cost pricing. In the remainder of this section I consider each briefly.

The idea of using surcharge funds as a means for recovering revenue losses was mentioned at one of the earlier CEC energy service work group meetings but then deferred. The major virtue of this approach is that it transparently identifies all of the costs associated with public interest energy efficiency. In this sense it is consistent with CPUC's preference for incorporating these costs in an identifiable public good charge component on the customer's bill. It would also satisfy the transparency condition in our fourth principle of meaningful consumer choice (recall Section 1.4). However, this proposal suffers from two major problems: First, implementation would require solving essentially the same measurement problems associated with a long term statistical ERAM. Second, as indicated above, the amount of funds needed to recover revenue losses, especially as revenue losses gradually accumulate over time, would overly deplete public goods surcharge funds.[41] Since either of these problems, taken by itself, appears to represent a fatal flaw; taken together they most surely are.

Another idea, proposed by some, is to divest utilities of their generation resources. The thinking that underlies this proposal seems to be that if we prevent utilities from selling energy this will remove any disincentive they might have for selling energy conservation. Unfortunately, while it may alleviate other problems related to restructuring, divesture has little or no connection to the revenue loss problem per se. This solution seems to be rooted in a mistaken formulation of the problem. As indicated in Section 3.1 revenue losses are <u>not</u> due to the utility's product mix, as is apparently presumed by advocates of this solution; they are due to inadequately cost-differentiated rate structures.

The inability of divesture to solve the revenue loss problem is easily seen by simply considering a utility distribution company, divested of generation, a DISCO, but continuing to recover the costs of distribution and customer service through the currently prevailing rate designs. Under current rate designs most of these costs are recovered through charges that

vary with a customer's kWh use. But because most of these costs are insensitive to use, any additional customer energy conservation will reduce the DISCO's revenues far in excess of any reduction in costs.[42] That is, despite the divesture of generation resources the DISCO would still experience substantial net revenue losses from additional energy conservation--essentially the same situation they were in before divesture.[43] In short, the problem is not product mix it is rate structures!

Finally we come to the marginal cost pricing solution. Precisely because it goes to the root of the rate structure problem this solution is straightforward. Under this solution rate designs would, as close as is practically possible, align marginal rates with marginal costs. Essentially, those costs, e.g. associated with distribution and customer service, that are unrelated to the amount or time of use would be collected through a fixed charge so that changes in costs associated with either an increase or a reduction in customer kWh use would reflect the true variation in cost experienced by the utility.[44] When it sells energy conservation to its customers, under these conditions, the utility would realize just the right amount of cost savings needed to offset its lost revenues. The result would be no net revenue loss.

Because of the confusion that sometimes exists about this point, it is perhaps worth emphasizing that this improvement in utility incentives is achieved without any sacrifice relative to the current criteria that defines utility energy efficiency program success. To put it in slightly different terms, under this approach all those energy efficiency measures that are now cost effective under the TRC test will still be cost-effective under the customer's own marginal cost rates. The equivalence between the TRC test and the customer cost effectiveness test is a straightforward consequence of the fact that marginal cost rates are based on the same avoided cost principles that are incorporated into the standard TRC measure of success.[45]

Another more subtle, but nevertheless potentially important, advantage of marginal cost pricing pertains to the possibility that it can help enhance the trustworthiness of the utility's information to the customer. As discussed in Section 2.2 a major transaction cost barrier to the realization of cost-beneficial energy efficiency opportunities is the difficulty experienced by consumers in acquiring trustworthy information. But customers are more likely to trust information from a source, e.g. a friend or a Consumers Report, with whom they perceive a common interest. It is thus worth noting that when it comes to energy conservation that aligning marginal rates with marginal costs also serves to align the de facto interests of the utility and its customers. To the extent utilities can successfully convert this de facto commonality of interest to a corresponding perception of trustworthiness it could, therefore, help reduce this transaction cost barrier.

Finally, in calling for time and locationally differentiated prices we note that the CPUC in its proposal for wholesale restructuring has already embraced the basic principles of marginal cost pricing.[46] From the perspective of affinity to the CPUC's philosophy of restructuring it is, thus, hard to imagine a more propitious solution to the revenue loss problem than marginal cost pricing.

3.4 Recapitulation

Briefly recapitulating, along with the non-price barriers described in Section 2.0 the mis-pricing of energy has historically represented a widely recognized barrier to realization of well functioning energy efficiency markets. This barrier can be eliminated by regulation which allows and encourages utilities to apply the marginal cost pricing principles under which rates are designed, taking into account the need to recover fixed costs, so that customer's marginal rates are aligned with a utility's marginal (i.e. avoided) costs. While the specific nature of the concerns, that originally motivated its adoption as part of CEC's load management standard in the late 1970s, have changed this marginal cost pricing principle continues to be a relevant part of the CEC's commitment to traditional least cost resource goals. Taken in combination with the necessary acceleration in market transformation activities needed to reduce non-price barriers described in Section 2.0, implementation of marginal cost pricing principles is necessary, under restructuring, to achieve the requisite well functioning energy service markets. More specifically, it is necessary to assure that energy efficiency efforts are effectively targeted to achieve the most net energy, i.e. including "indirect" as well as "direct" end-use energy, reductions. And it is necessary to eliminate the significant utility revenue losses that will otherwise continue to constrain, and under restructuring, potentially undermine their willingness and ability to maximize their potentially unique and very significant contribution to realization of healthy energy service markets.

4.0 Implications for the Relationship Between Track 1 and Track 2

To conclude this paper I briefly explore the implications of the preceding analysis for the relationship between Track 1 and Track 1.

In their paper, that I understand is also being circulated to the CPUC energy services working group, Eto et.al identify two basic choices for the relationship between ratepayer and private funded energy efficiency activities as follows:

(1) Subsidiarity (or is it subsidiary?)--ratepayer-funded programs should only supplement what private energy-efficiency providers leave behind or are incapable of providing unassisted, or
(2) Head-to-head or "yardstick" competition--ratepayer-funded programs should overlap with private-sector activities on the presumption that they can be delivered at lower total cost.[47]

In indicating that continued ratepayer funding will be "appropriate for activities that are designed to transform the energy efficiency market and will not naturally be provided by a competitive market" (per Conclusion of Law #84)[48] the CPUC clearly, as between these two choices, opts for the "subsidiary" approach. However, as clarified in a subsequent conversation with Joe Eto, within this broad subsidiary category we may usefully distinguish between what we might call (1) the supplier-of-last-resort, and (2) market-barrier-reducer approaches.

Under a supplier-of-last-resort approach publicly funded activities would focus on the same kinds of energy efficiency products as private providers but target those market segments that

are not, to use the CPUC's phrase, naturally provided by competitive markets. Alternatively, under a market-barrier-reducer approach public funds would focus on different kinds of activities than those naturally provided by competitive markets because they would be specifically designed to be provided for competitive markets. Priority would be given, under this approach, to those kinds of activities that can be uniquely provided under public sponsorship and that, drawing on our knowledge of market barriers, are needed to safeguard against opportunism and otherwise economize on transaction costs. These activities, such as those described in Section 2.0, would thus focus on supporting competition[49] by directly reducing market barriers aiming to transform competitive energy service markets into well functioning markets that are capable of delivering in practice the kind of efficiency gains that are typically, in deregulation discussions, attributed to competitive markets in theory.[50]

In indicating that rate payer funding will be used for activities that are designed to transform markets (per Conclusion of Law #84[51]) and not be used for "customer specific energy projects" (Conclusion of Law #83[52]) the CPUC, as between these two choices, is clearly opting for the market-barrier-reducer approach. Partly this is because the supplier-of-last-resort approach would involve customer-specific energy projects and hence conflict with Conclusion of Law #83; while the market-barrier-reducer approach would clearly satisfy both Conclusions of Law #83 and #84.

Equally, if not more important than satisfying the CPUC's criterion the market-barrier-reducer approach would focus directly on establishing the kind of well functioning markets rooted in meaningful consumer choice that are necessary in order to satisfactorily meet our traditional energy efficiency least cost resource goals. Looking the other way around, unless there is a significant effort aimed at reducing market barriers there is likely, for all practical purposes, to be no segment of the competitive market that functions satisfactorily. The combination of large informational disparities and opportunism that typically characterize energy efficiency markets tends toward extremely counter productive vicious cycles. As a result of our advancing knowledge about market barriers, as described in Section 2.2, we now much better understand how, informational disparities set the stage for opportunistic private providers to promulgate misleading and untrustworthy information which increases consumer risk and worsens informational disparities.

Failure to directly address these market barriers under restructuring, with its increased reliance on markets, is thus likely to create a situation where the supplier-of-last-resort function would not work effectively for several reasons. First, to the extent that publicly funded suppliers-of-last-resort focused on the same kinds of energy efficiency products as private providers it would face the same market barriers as private providers.[53]

Second, because market barriers are so all pervasive it would make it extremely difficult, if not impossible, to delineate between Track 1 and Track 2 activities. Essentially both Track 1 and Track 2 activities would be focused on the same products and services; except in some cases they would be subsidized by public funds and in other cases they would not. This is likely to lead to two major competitive market distortions. First, ratepayer subsidized products, are likely to crowd out privately funded products that might otherwise succeed in competitive markets. Second, because of the actual or perceived threat of "within-firm" cross-subsidization the CPUC will come under pressure and as a result is likely to introduce

restrictions on effective participation of utilities, and perhaps non-utilities, in either Track 1 or Track 2 that would be detrimental to the healthy overall performance of energy efficiency markets. This would, for example, be the case if the CPUC prevented utilities who received ratepayer funds for "supplier-of-last-resort." Track 2 activities from also participating in privately funded competitive market Track 1 activities in their own service areas.

Alternatively under a market-barrier-reducer approach market distortions would be minimized. To take a concrete example, a utility or a non-utility energy service company could undertake a ratepayer funded activity to redesign customer bills in order to enhance the quality of customer energy use feedback. Since better energy use feedback would make it easier for consumers to determine the value of all energy efficiency products, reducing this market barrier would help all reputable energy efficiency providers. Since it supports healthy competition between all reputable providers there would be no reason to worry that it would crowd out products from competitive markets. If anything, better feedback would expand private energy efficiency markets, by bringing more products in.

If successful, the market-barrier-reducer approach would eventually create a situation where "suppliers-of-last-resort" would not be relevant because markets were functioning well enough to realize all practically achievable cost/beneficial energy efficiency.[54] However, as recent advances in our knowledge about market barriers make clear, achieving this kind of success would require a substantial commitment to the right kind of consumer assistance and protection activities. It would require a sophisticated, multi-disciplinary, on-going strategic approach that goes substantially beyond the kind of up-front consumer education (especially in light of the ill fated Telecommunications Education Trust) and mitigation of more blatant kinds of fraud that the CPUC appears to now have in mind.[55] It would need to safeguard against the more subtle but far more pervasive kinds of opportunism; and establish conditions conducive to the routine on-going provision of information and service quality that consumers would be able to trust and use as a basis for intelligent, genuine value enhancing, meaningful choice.

To briefly recapitulate, the upshot of these considerations is that our advancing knowledge about market barriers points to both the possibility and need for placing high priority on a "market barrier reducer" approach to ratepayer funded Track 2. This approach is consistent with the CPUC's criterion for use of ratepayer public goods surcharge funds. It is necessary, under restructuring, to satisfy our traditional commitment to least cost resource goals; as well as our new commitment to meaningful consumer choice. Based on advances in both (a) smart technologies and (b) our knowledge about how to cope with market barriers there is reason, given sufficient priority and commitment, for some optimism that such an approach could succeed. Under this approach the ratepayer funded Track 2 would be much more than simply subsidiary; it would be complementary to and strongly supportive of the privately funded competitive markets envisioned under Track 1.

END NOTES

1. See, for example, Romm, Joseph J., ***Lean and Clean Management, How to Boost Profits and Productivity by Reducing Pollution***, Kodansha International, 1994; Mills, Evan and Art Rosenfeld, "Consumer Non-Energy Benefits as a Motivation for Making Energy Efficiency Improvements," ACEEE, 1994, Vol. II, p. 4.102 which highlights the importance of many non-energy customer values for motivating the adoption of energy efficiency products; Newcomb, James, "Energy Efficiency Services: What Role in a Competitive Environment," ***Electricity Journal***, November 1994, p. 42; and Burt, Robert E., testifying for the ***Insulation Contractors Association***, R094-04-031 and I-94-04-032 filed February 15, 1996.

2. See ER 94 and soon forthcoming ER 96, Staff White Paper on Meaningful Consumer Choice.

3. Because the concept of market transformation has been defined in different ways at various times by different authors I use this term with caution. See, for example, Goldstone, Seymour E., California Utility DSM at the Crossroads, Chapter VII "The Market Transformation Approach," CEC staff paper, January 1995, Publication No. P150-96-001, which draws a distinction between "market-barrier-first" and "technology-first" approaches.

   In fact, much of the confusion over the use of this term appears traceable to the fact that the concept of market transformation has been evolving progressively in response to experience. As described in a soon forthcoming companion energy CEC staff paper by Mary McNally we use this term here in what we call the "fourth stage" of its evolution.

4. See CPUC December 20, 1995, Decision 95-12-063, p. 5.

5. See CPUC December 20, 1995, Decision 95-12-063, p. 4.

6. This, theme was articulated by Amory Lovins, Director of Research, Rocky Mountain Institute in his presentation on "Negawatts, Hypercars, and the Distributed Utility," and by Carl Weinberg, Energy Consultant in his presentation "Energy Technologies and Renewables in the Market Place," at CEC's Informational Hearings on the 1996 State Energy Plan, Sacramento, CA, February 14-15, 1996.

7. Along these lines, it is worth noting that competition from demand side alternatives creates a more price elastic demand for electricity. As Borenstein, et.al. point out demand elasticity is one of the two factors that determines the amount of market power that will exist in oligopolistic generation markets. By increasing demand elasticity healthy demand side energy efficiency markets are thus an important way to contain and reduce such market power. See "Market Power in California Electricity Markets," Severin Borenstein, James Bushnell, Edward Kahn, and Steven Stoft, December 1995, Program for Workable Energy Regulation, PWP-036, p. 10.

8. A recent survey by SatisfactionWorks of nearly 1300 California commercial and industrial consumers, suggests, that such value oriented service is more important than normally realized even for large customers. "Among the findings were: over half the commercial and industrial customers are looking to switch to providers for more value; a large majority of customers feel a sense of urgency about making this switch; price is not the only thing that is important to those who seek to switch; and, customers say the predominant retention strategies of current providers are ineffective." California Energy Market 3/15/96, No. 353. p. 8.

9. See, for example, Chao, Hung Po, Shmuel S. Oren, Stephen A. Smith and Robert B. Wilson, "Priority Service: Market Structure and Competition," ***The Energy Journal***, Vol. 9, 1988, International Association for Energy Economics, p. 77.

10. See soon to be forthcoming staff ER 96 White Paper on Meaningful Consumer Choice.

11. See CPUC December 20, 1995, Decision 95-12-063, p. 186.

12. See CPUC December 20, 1995, Decision 95-12-063, p. 189.

13. In attempting to discover more about how the Telecommunications Education Trust (TET) worked in practice we found that the CPUC's recent decision to distribute $2 million was reversed by the California Supreme Court and as a result of the court's decision the TET is being phased out. It thus seems unlikely that the TET represents a good model to emulate for electricity.

14. For a review of relevant transaction cost economics findings see Goldstone, Seymour E., "Restructuring: Stimulus to Improving Utility DSM: How Economists Might Help," paper presented at Western Economic Association's 70th Annual Conference in San Diego, July 5-9, 1995.

    For a review of relevant findings from cognitive psychology and their impacts on market performance see soon forthcoming ER 96 CEC staff White Paper on Meaningful Consumer Choice.

15. For a summary of this field see Eggertsson, Thrainn, Chapter 7 "The Logic of Economic Organization," Section 2.2 Market Practices, Measurement, and Quality Variation of Products, pp. 195-203 in ***Economic Behavior and Institutions***, Cambridge U. Press, 1990; Williamson, Oliver E., ***The Economic Institutions of Capitalism--Firms, Markets, Relational Contracting***, Chapters 1 and 2, The Free Press, 1995; and Williamson, Oliver E., "Transaction Cost Economics," Chapter 3, ***The Handbook of Industrial Organizations***, Vol. 2, edited by R.S. Schmalnlensee and R.D. Willig, ***Elsevier Science*** Publishers B.V., 1989.

16. Stern, Paul C., "Saving Energy the Human Dimension," ***Technology Review***, January 1984.

17. Williamson, Oliver E., 1995, Chapter 2, op.cit. p. 21.

18. Stern, Paul C., "What Psychology Knows About Energy Conservation," ***American Psychologist***, October 1992.

19. Stern, 1992, op.cit. p. 1224.

20. For an insightful analysis of how these difficulties ramify to different actors throughout the system see Lutzenheizer, Loren, "Why Isn't the Housing Stock More Efficient? Organizational Networks and Technology Transfer," ACEEE, 1994, Volume 1, pp. 1.110-1.113.

21. For an excellent and highly readable summary of the findings of cognitive psychology over the last 20 years see Piatelli-Palmerini, Massimo, ***Inevitable Illusions: How Mistakes of Reason Rule Our Minds***, John Wiley & Sons, Inc., 1994..

22. Piattelli-Palmerini argues that the discovery and cataloguing of these irrational reasoning strategies ranks in importance along side the discovery of the subconscious in psychoanalysis, op.cit. p. 4.

23. See CPUC December 20, 1995, Decision 95-12-063, p. 5.

24. Kempton, W., and Montgomery, L., "Folk Quantification of Energy," ***Energy: The International Journal***, 1982, Vol. 7, No. 10, pp. 817-827.

25. Thaler, Richard H., Chapter 1, "Toward A Positive Theory of Consumer Choice," in ***Quasi-Rational Economics***, Russel Stage Foundation, 1991.

26. See Kempton, W., "Improving Residential Customer Service Through Better Utility Bills," Strategic Memo SM-95-1, E-Source, August 1995.

27. For an excellent summary of how many improvements might be made by improving monthly customer bills at relatively small cost see op.cit. Kempton, W., E-Source, August 1995.

    Also for a particularly interesting recent study showing the power of feedback see "Prepurchase Meter Rivals Weatherization for Low Income Assistance," ***Home Energy***, March/April 1996, p. 9. According to this study low income participants who obtained feedback, and increased control over their use, through a "pay-as-you-go prepurchase option" used an average of 20 percent less electricity while members of a control group who received weatherization used an average of only 5.5 percent less.

28. Tutt, Tim, Michael Jaske, Lionel Lerner, Lorraine White, Joe Diamond, Sulaman Alquidsi, CEC staff, "Internalizing Externalities, September 15, 1994, Docket 93-ER-94.

29. See Stone, Nehemiah, et.al., "Staff Response to Demand-Side Management Questions of the ER 94 Committee's August 3, 1994, Third Order on Policy Analysis," October 1994, Docket No. 93-ER-94, figure 5, who project that this pattern of marginal costs remaining below average cost will persist over the foreseeable future. Further note

that because the marginal rates for most small customers exceed average system costs the deviation from marginal cost pricing is greater, in many cases, than comparison of marginal average costs indicates.

30. The existence of revenue losses also reflects the fact that marginal cost pricing by itself would be insufficient to collect enough revenues to recover fixed or common costs in excess of marginal costs. This problem is at least partly, and in some cases totally remedied by the prices that are necessary to clear the market during shortage situations such as being proposed for transmission in the form of congestion changes and for generation in the form of demand bids. The revenues obtained by market clearing shortage pricing may substantially alleviate what otherwise might be substantial revenue shortfall because they are higher than a utility's out-of-pocket marginal cost reflecting instead the customer's marginal opportunity costs. When they are properly equated with customers marginal willingness to pay for reliability (i.e. marginal opportunity cost) these shortage charges are also an application of marginal cost pricing principles. They serve the twin objectives of allocating limited capacity to its most highly valued customer uses and providing investors with the correct incentive for adding new capacity.

    For a clear exposition of how this "shortage situation" marginal cost pricing would work to recover fixed generation costs see Grow, Robert "Playing the Pool: Can Everybody Win?" ***Public Utilities Fortnightly***, March 1, 1996.

    In those cases where the revenues from normal plus shortage related marginal cost prices are insufficient to cover total costs, such as is likely for distribution, two part tariffs would be used to recover costs in excess of marginal costs with minimum distortion in customer choice. See Della Valle, Anna P. and Miles O. Bidwell, jr. Restructuring Rates Creates Value and Reduces Stranded Costs," ***Electricity Journal***, December 1995, for a proposal on how this might be accomplished as part of the restructuring process. See too Note #44.

31. See CEC Load Management Tariff Standard, Title 20, California Code of Regulations, Section 1623.

32. For his classical exposition of this point see Hayek, Friedreich H., ***American Economic Review***, May 1945.

33. See CPUC December 20, 1995, Decision 95-12-063, p. 76.

34. For a sophisticated discussion of this issue see Baumol, William J. and Edward Wolfe, "Subsidies to New Energy Sources: Do They Add to Energy Stocks," ***Journal of Political Economy***, 1995, Vol. 89, No. 5, pp. 896-903.

35. Messenger, Michael, "Will Electric Utilities Effectively Compete in Markets Without a Profit Motive," CEC staff paper, 1989.

36. Eto, Joe, S. Stoft, J. Belden, "The Theory and Practice of Decoupling," LBL-34555, January 1994.

37. See "Energy Efficiency Blueprint for California, Report of the Standard Collaborative Process," January 1990.

38. For example, recall discussion with utility DSM program representatives at CEC's ER 94 workshop on utility DSM programs, Summer 1995.

39. See CPUC's specific renunciation of ERAM because it gives the utility little incentive to vigorously negotiate customer retention discounts. CPUC 12/20 decision 95-12-063, Finding of Fact #85, p. 199.

40. At our 3/28/96 meeting SCE estimated that, as a consequence of their $70 million to be spent on DSM in 1996, they would experience approximately $20 million dollars per year in net revenue losses. So if SCE continues its program funding at the same $70 million per year level it will then need to recover an additional $20 million for its 1997 programs, then still an additional $20 million for its 1998 programs and so on. If we assume the persistence of energy savings on the order of 10 years, that we now assume as part of the TRC tests, the annual revenue loss adjustments will at some point significantly exceed the annual utility program costs.

41. Recall note #40.

42. The one exception to this occurs in those locations where conservation can avoid costs that would otherwise have to be incurred to expand distribution capacity.

43. If anything, since the percentage of distribution costs avoidable by conservation is lower than the percentage of avoidable generation costs the power of the disincentive to pursue energy conservation would probably be greater for the utility DISCO, with current rate structures, than for the integrated utility.

44. There are obviously many concerns other than energy efficiency that would need to be worked out in applying these principles. For example, as Della Valle and Bidwell point out, in the case of electricity, special care would probably have to be taken to avoid unacceptable "bill shocks" that might otherwise be experienced by individual or sub groups of customers. But as they also point out this could be accomplished by the way in which the charges for stranded costs are incorporated in order to provide a gradual transition to desired rate structures without unacceptable "bill shocks."

    By increasing the market value of existing generation assets they argue this approach might also have the additional benefit of helping to reduce stranded costs. See Della Valle, Anna P. and Miles O. Bidwell, Jr., op.cit. see too note #30.

45. California Standard Practice Manual, "Economic Analysis of Demand-Side Management programs," CPUC and CEC, December 1987.

46. See CPUC, December 20, 1995, Decision 95-12-063, pp. 15, 50, 77.

47. Eto, Joe, C. Goldman, and M.S. Kito, "Ratepayer-Funded Energy Efficiency Programs in a Restructured Electricity Industry: Issues, Options and Unanswered Questions," soon forthcoming, ACEEE, 1996.

48. CPUC December 20, 1995, Decision 95-12-063, p. 213.

49. For a particularly insightful discussion, on why deregulation, whether total or partial, generally requires the provision of new kinds of "competition supporting" activities by government, see Alfred E. Kahn "Deregulation: Looking Backward and Looking Forward," ***Yale Journal on Regulation***, v. 7.7: 1990, pp. 325354.

This well known authority and champion of deregulation thus argues that:

> "The abolition of direct economic regulation is by no means synonymous with *laissez faire*. On the contrary, it may call for government interventions no less vigorous than direct regulation itself, but fundamentally different in character and intent. The progressive realization of this fact in recent years makes for a bifurcated prognosis for the 1990s: the historic trend of direct economic deregulation is unlikely to be reversed, but government will play an increasingly active role in attempting to preserve competition and remedy its imperfections And that is what it should do." Op.cit, p. 329.

50. This, of course, is a somewhat unfair put down of theory. As is often remarked, even Adam Smith recognized that the so called "invisible hand" of markets required the "visible hand" of government to perform certain essential functions, such as establishing and enforcing property rights. As evidence from former Soviet-style economies, now attempting to transition to market style economies, vividly demonstrates these "visible hand" functions cannot be taken for granted. The failure to adequately perform these functions has, in fact, created precisely the kind of rampant opportunism and excessive transaction costs that is predicted by transaction cost economic theory.

51. CPUC December 20, 1995, Decision 95-12-063, p. 213.

52. CPUC December 20, 1995, Decision 95-12-063, p. 213.

53. In this regard it is important to note that the costs associated with these barriers do not disappear just because they are not measured. We cannot, for example, adequately judge the extent to which these market barrier costs have been reduced, or merely been compensated for by most traditional rebate oriented utility programs. This is because the relevant components are now omitted from the standard TRC test.

For evidence on the practical significance of these omitted components see Herman, Patricia and Elizabeth Hicks, "From Theory Into Practice: One Utility's Experience with Applying the Value Test," ACEEE, 1994, Vol. 8; Nichols, Albert, "Revealed Preference and Net Benefits of Electricity Demand-Side Management," Western Economic Association Meeting, Lake Tahoe, Nevada, June 1993; and Levine, Mark and Richard Sonnenblick, "On the Assessment of Utility demand Side Management Programs," ***Energy Policy***, Vol. 22, No. 10, October 1994, Special Issue Markets for Energy Efficiency.

Based on these findings Goldstone argues that the omission of this market barrier cost component, taken in combination with the also missing market transformation

"spillover" component, significantly undermines the value of the standard TRC test as a means for discriminating between "good" and "bad" traditional ("supplier-of-last-resort") type utility DSM programs. See Goldstone, January 1995 and Goldstone, July 1995, op.cit.

54. One possible exception to this might be in cases where markets are limited by customers' low income. Whether or not, and to what extent, the assurance of basic services to the poor is best addressed through direct rate or energy efficiency subsidies is a complicated question and should be addressed by those in the low income group.

55. Recall note #13.

APPENDIX C

ACRONYMS

Acronyms

ARCA	Appliance Recycling Centers of America
Board	Governing Board
CADMAC	California DSM Measurement Advisory Committee
CEC	California Energy Commission
CEEPIRB	California Energy Efficiency and Public Interest Research Board
CEEX	California Energy Efficiency Exchange
CEEMT	California Energy Efficiency Market Transformation
CES/Way	California Energy Services/Way
CPD	Consumer Protection Department
CPE	Customer Protection and Empowerment
CPUC	California Public Utilities Commission
CTC	Competitition Transition Charge
DEB	Director-Elected Board
DGS	Department of General Services
DRA	Division of Ratepayer Advocates
DSM	Demand-Side Management
EE	Energy Efficiency
EEFC	Energy Efficiency Fund Corporation
EEI	Energy Efficiency Incentives
EEP	Energy Efficient Providers
EEPA	Energy Efficiency Public Authority
EMG	Environmental Marketing Group
EMS	Energy Management Services
ENOVA	Enova Energy
EP	Efficiency Procurement
ERAM	Electric Revenue Adjustment Mechanism
ESCO	Energy Services Companies
ESP	Energy Service Providers
FERC	Federal Energy Regulatory Commission
HMO	Health Maintenance Organization
IA	Independent Administrator
ICA	Insulation Contractors Association
IOU	Investor-Owned Utility
JPA	Joint Powers Agency
kWh	Kilowatt-hour
LADWP	Los Angeles Department of Water & Power
LBNL	Lawrence Berkeley National Lab
LLNL	Lawrence Livermore National Lab

LDC	Local Distribution Company
M&E	Measurement & Evaluation
MOU	Memorandum of Understanding
MRW	MRW Associates
MT	Market Transformation
NEEP	New Energy Efficiency Paradigm
NAESC	National Association of Energy Service Companies
NIT	Neutral Information Transactor
NRDC	Natural Resources Defense Council
OSE	Onsite Energy
PA	Proven Alternatives
PAB	Public Authority Board
PG&E	Pacific Gas & Electric
PG	Public Goods
PGC	Public Goods Charge
PGS	Public Goods Charge (Services)
PUC	Public Utilities Commisson
QEEP	Qualifies Energy Efficiency Providers
QESP	Qualifies Energy Service Providers
RD&D	Research and Development
RDC	Regional Distribution Company
REB	Ratepayer-Elected Boards
RFP	Request for Proposal
SAD	Strategic Assessment Department
SC	Sierra Club
SCE	Southern California Edison
SCG	Southern California Gas
SDG&E	San Diego Gas & Electric
SESCO	SESCO
SMUD	Sacramento Municipal Utility District
SWG	SouthWestern Gas
TRC	Total Resource Cost
TURN	Toward Utility Rate Normalization
UDC	Utility Distribution Company
UEG	Utility Electric Generator

APPENDIX D

ACTIVE WORKING GROUP ORGANIZATION

Active Working Group Organizations

Appliance Recycling Centers of America
California Energy Commission
California-Nevada Community Action Association
California Energy Coalition
California Public Utilities Commission/Division of Ratepayers Advocates
California Legislative Conference
California Municipal Utility Association
CES/Way
City of Palo Alto
California Department of General Services/Office of Energy Assessment
Electric Utility Research, Inc.
Environmental Marketing Group
Enova Energy
Environmental Defense Fund
Insulation Contractors Association
Johnson Controls, Inc.
Lawrence Berkeley National Laboratory
Los Angeles Department of Water and Power Company
National Association of Energy Service Companies
National Resources Defense Council
Onsite Energy Corporation
Pacific Gas & Electric Company
Proven Alternatives, Inc.
Richard Heath and Associates
RESCUE
Sacramento Municipal Utilities District
San Diego Gas & Electric Company
Schiller Associates
Sierra Club
Southern California Edison Company
Southern California Gas Company
Southwest Gas Corporation
Toward Utility Rate Normalization